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ADVISORY
COUNCIL ON
RADIATION PROTECTION



Bureau of Radiation Control
Hampton Inn & Suites
Tampa Airport Avion Park Westshore
Tampa, Florida 33607

Thursday, September 22, 2022
12:10 p.m. - 3:40 p.m.

Reported by
Rita G. Meyer, RDR, CRR, CRC
Realttime Reporter and Notary Public
State of Florida at Large



1 ADVISORY COUNCIL MEMBERS PRESENT:

2 Randy Schenkman, M.D., Retired (Chairman)
3 Mark S. Seddon, M.P., DABR, DABMP (Vice-Chairman)
4 Nicholas Plaxton, M.D.
5 Adam Weaver, MS, CHP
6 Mark Wroblewski
7 Chantel Corbett, AS, CNMT, RT (N), RSO
8 George Gilbride, R.R.A, R.T.(R) (CT) (ARRT)
9 William "Bill" Atherton, DC, DACBR, CCSP
10 Joseph Danek, CHP
11 Jennifer L. Peterson, M.D.
12 Kathleen Drotar, Ph.D., M.Ed., RT. (R) (N) (T)
13 Albert Tineo, MS, CNMT

14 FLORIDA DEPARTMENT OF HEALTH STAFF
15 BUREAU OF RADIATION CONTROL:

16 Cindy Becker, Chief
17 James Futch, Administrator
18 Clark Eldredge, Environmental Administrator
19 Giovanna Manning, Environmental Specialist
20 Brenda Andrews, Business Consultant

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AGENDA

1		
2		PAGE
3	Radiation Machine Update	4
4	Retirement Presentation	18
5	Member/Emerging Issues	31
6	Radiologic Technology Update	40
7	Nuclear Medicine Discussion	51
8	Other Business/Next Meeting	104
9	Adjourn	107
10	Certificate of Reporter	108

11
12
13
14
15
16
17
18
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21
22
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1 (Reporter Joined Meeting Already in Progress)

2 CLARK ELDREDGE: So they want to do this to
3 look at lead in bone. So they want to line up
4 people and shoot their shins with the XRF so they
5 can determine who gets what ranking in a lawsuit.
6 So the goal here, their goal is to -- it's like, one
7 other thing, they're saying it's nonmedical x-ray,
8 of course. This has no concern with a person's
9 health care or anything else. We're looking at the
10 lead concentration in their bones to try to estimate
11 the lead exposure in a lawsuit against a lead
12 smelting plant.

13 NICHOLAS PLAXTON: That's still radiation.

14 CLARK ELDREDGE: So we issued a denial for that
15 request back on July 27th. Florida Statutes Section
16 404.22, Paragraph 8 states, the human being may be
17 exposed to the useful beam of a radiation only under
18 the following conditions. So there's, (A), for the
19 purpose of medical or health care if a licensed
20 health care practitioner operating within the scope
21 of his or her practice has determined that the
22 exposure provides a medical or health benefit
23 greater than the health risk posed by the exposure
24 and the health care practitioner uses the results of
25 the exposure in the medical or health care of the

1 exposed individual. Okay?

2 And the other one is for the purpose of
3 providing security for facilities or other venues.
4 So this is basically where they use whole body scans
5 looking at things in --

6 ADAM WEAVER: Prisons.

7 CLARK ELDREDGE: -- prisons, right?

8 ADAM WEAVER: Yep.

9 CLARK ELDREDGE: So there's that. So those are
10 our two cases and we can say, well, you're saying
11 it's not secure, you're saying it's not health care
12 so obviously, the statutes don't permit it.

13 ADAM WEAVER: Can't do it, right.

14 CLARK ELDREDGE: So that was a denial on the
15 27th. However shortly, a couple days after we found
16 in our que of applications to be processed, they had
17 moved it from -- they submitted an application,
18 virtually they applied for their office in downtown
19 Tampa, and now they've applied to have the x-ray
20 tube in a private home in Plant City is where their
21 registration location is. So we're currently under
22 communications.

23 ADAM WEAVER: That's where Smelter was or is.

24 CLARK ELDREDGE: So they're under
25 communications right now. We've had one request for

1 additional information. For the usual application
2 asking, you know, well, is there any sort of
3 radiation protection program, any other
4 documentation you want us to consider with this type
5 thing. And they basically resubmitted what they
6 submitted before and now we're mailing out a letter
7 today asking for additional information after that
8 one.

9 Rule progress, mentioning the security
10 screening, we are -- did publish those rule
11 development for that. Have not made a whole lot of
12 headway on that. I did try to reach out to -- let
13 me back up.

14 So in the statutes, for the purpose of
15 providing security screening, if the exposure
16 determined to again, provide a life safety benefit
17 to the individual exposed which is greater than the
18 health risk posed by the exposure, such
19 determination must be made by the individual trained
20 in evaluating and calculating the mortality
21 morbidity risks according to the standards set by
22 the department. To be valid, the calculation method
23 making the determination must be submitted to and
24 accepted by the department and limits to annual
25 total exposure for security purposes must be adopted

1 department rule based on nationally recognized
2 limits or relevant consensus standards, so --

3 ADAM WEAVER: What did you guys select, 100
4 millirem or 10 millirem?

5 CLARK ELDREDGE: Well, we've got there's the
6 100 millirem and there's also the ANSI.

7 ADAM WEAVER: So the ANSI is lower.

8 CLARK ELDREDGE: The ANSI standard is actually
9 for security scanning.

10 ADAM WEAVER: Right.

11 CLARK ELDREDGE: So we've got that. But then
12 there's the issue of procedures out, you know, how
13 to actually do these determinations and that's --

14 ADAM WEAVER: Yeah, who's using it.

15 CLARK ELDREDGE: -- a little bit of a roadblock
16 right now because we've already adopted the ANSI
17 standards in our rules for security screening. But
18 I tried to find how to come up with who should be
19 doing these evaluations. And I've reached out to
20 state epidemiologists, to researchers, around, you
21 know, to professors around the state about
22 universities, about folks who do comparative risk
23 assessments and things like that. And didn't really
24 get a whole lot of, well, I don't even know where to
25 start with that type comments.

1 ADAM WEAVER: Yeah.

2 CLARK ELDREDGE: So the current outline that
3 I'd like to discuss with you or the direction of,
4 these are the goals that the codes should be
5 addressing. All right? And then we, at least we
6 can get that framework set up.

7 So the exposure must only cover the area of
8 interest. So what are you trying to look at? Where
9 do you think again, whole body scans, if you're
10 doing the whole body, that's fine, but if there's
11 some other reason or something, you know, just like
12 any other medical procedure, you're not going to
13 x-ray the whole body to look for a broken wrist or
14 something, right? So, you know, while --

15 JAMES FUTCH: They're looking for contraband.

16 CLARK ELDREDGE: Right. What is it. You have
17 to really understand it.

18 Let me go back. This is not in any really good
19 order for these things. But the registrant, they
20 must actually tell us what it is the risk or hazard
21 is supposed to be they're involving. What do you
22 think the problem is. And therefore, what part of
23 the body should be involved in any x-ray type thing.
24 So is the exposure targeted towards whatever risk or
25 hazard you're trying to avoid. How are the people

1 you're x-raying, how are they part of the risk,
2 right? So one of the -- there was the request from
3 the jails.

4 JAMES FUTCH: Family members, visitors to the
5 prisons.

6 CLARK ELDREDGE: So we did get the request from
7 the visitors to the prisons and they wanted to put
8 them through the same whole body scanners.

9 ADAM WEAVER: Oh. That kind of goes against
10 the ANSI standard.

11 CLARK ELDREDGE: Right. But, you know, but the
12 point there was, you're giving a whole body internal
13 organ dose to somebody when --

14 ADAM WEAVER: You don't know actually know
15 where the contraband might be.

16 CLARK ELDREDGE: No, but somebody walking into
17 to visit the prison and going to a day room or
18 something like that, how are they supposed to be
19 transferring something that's internal to their body
20 to somebody else? Versus something on their clothes
21 or outside of their body, you know? So you might
22 have a wire, some other material, something hidden
23 on your body and there are well documented cases of
24 transferring stuff between visitors who give a hug
25 whatever, if it's a day room, and they slip stuff

1 back and forth. So that's a well, supposedly a well
2 documented -- I haven't actually read the reports,
3 but people have explained to me that's a real
4 problem.

5 And if you're giving somebody an exam that's to
6 examine things in their colon or their digestive
7 tract, how are they supposed to remove those items
8 in the day room and pass it to somebody else to then
9 hide in their colon or their digestive tract.

10 ADAM WEAVER: Well, that's -- I mean, it could,
11 it could argue orally, too, they could have it in
12 their mouths.

13 CLARK ELDREDGE: Anyway. But, well, then you
14 would necessarily, still why would you be giving
15 them a torso organ dose.

16 ADAM WEAVER: Right.

17 CLARK ELDREDGE: You know. All right. So --
18 so anyway, so that's, you know, explain what it is,
19 you know, what mechanisms you're trying to -- and by
20 the way, give us data on the risks. I mean, of
21 course, as I said before, you've got to give us the
22 data based on, you know, either based on the total
23 population, do a total population risk analysis or
24 you can do it in units of per individual, right?
25 Either way. But it's got to be a consistent set

1 of -- the analysis, itself, has to be consistent so
2 you're not going to somehow come up with an
3 individual risk value and try to compare it to whole
4 body value.

5 ADAM WEAVER: I imagine the dose is going to
6 depend on the size of the individual you're
7 screening.

8 CLARK ELDREDGE: Screening, okay. You know
9 when -- at least with the radiation part, of course,
10 we do have -- there are risk coefficients from USKER
11 and NCRP and ICRP and folks like that. I didn't say
12 it right. Anyway. Use those, the recent dose, risk
13 calculation, the most recent risk coefficients from
14 them per dose. But I'm not sure if that would
15 actually work in Florida's rules. I might actually
16 have to establish and select one and publish that
17 because historically, there was at one point where
18 you couldn't say a thing, like, use the most recent.
19 You had to adopt a specific thing and you're stuck
20 with that, even when things update until you get
21 another.

22 ADAM WEAVER: Yeah. The Byrd reports and
23 things like that.

24 CLARK ELDREDGE: Use LNT for the risk,
25 radiation risk calculation. And then at this point,

1 the individuals with experience in statistics,
2 epidemiology, comparative risk analysis,
3 inapplicable numerical methods should be used
4 somehow in doing this work, you know.

5 ADAM WEAVER: Sounds like some university needs
6 to get a Ph.D. student to, or candidate perhaps, to
7 maybe consider doing this. But I don't know if
8 you -- that would require money.

9 CLARK ELDREDGE: I mean, you know, you can
10 certainly see economics, economists who actually do
11 this type of work. So there are, there are folks
12 out there that are saying, okay. So many events
13 occur. Because, you know, they do have data.

14 ADAM WEAVER: Yeah. The non-radiation related.

15 CLARK ELDREDGE: The non-radiation side. We've
16 got members out there for the radiation side and
17 risk, but it's the non-radiation side.

18 ADAM WEAVER: Yeah. Each prison population may
19 be different. Visitors and --

20 CLARK ELDREDGE: Yeah. But they've got -- so
21 that is, um, I think it for the updates.

22 I do have one thing to talk about, but I was
23 going to do that during the emergency issues.

24 Emerging issues. It's more in line with that.

25 Any questions? Discussion? Anything in the

1 note, anything in the concepts I've laid out for
2 trying to come up with the --

3 ADAM WEAVER: I'm interested with the lead, the
4 lead analysis. On legs. I mean I know they're
5 using an XRF but is it x-ray produced or is it a
6 cobalt?

7 CLARK ELDREDGE: They're using x-ray ones so --

8 ADAM WEAVER: They're not use the Cobalt 57.

9 CLARK ELDREDGE: Giovanna.

10 ADAM WEAVER: So the radioactive materials
11 wouldn't get involved.

12 CLARK ELDREDGE: Right. These are all tube
13 based.

14 ADAM WEAVER: Okay.

15 CLARK ELDREDGE: And at -- I was at the HPS
16 meeting in Spokane, representing the CRCPD. And
17 actually, there were presentations there from, I
18 can't remember the California school, on doing XRF
19 analysis for composition errors looking at
20 strontium. Sheep bones, sheep skins. And then
21 tested, so they had the bone exposed and they put
22 over different types of tanned skin to simulate, you
23 know, human skin and whatnot, over bone.

24 ADAM WEAVER: Okay.

25 CLARK ELDREDGE: And looking to see how it

1 change the sensitivity and the response.

2 ADAM WEAVER: Yeah. Different thicknesses of
3 skin. Densities.

4 CLARK ELDREDGE: Yeah. What I got out of that
5 little presentation was, you still see it, but it
6 kind of levels out the, you know -- the filtering of
7 the skin actually kind of reduces the sense, the
8 response to the concentrations. It didn't --

9 ADAM WEAVER: Some of the characteristics
10 x-rays are low, very low.

11 CLARK ELDREDGE: Yeah, very. So they -- yeah.
12 So -- All right. That was --

13 RANDY SCHENKMAN: Anyone have anything else to
14 ask him? Okay. Thank you.

15 NICHOLAS PLAXTON: Question. You got those
16 applications like, you know, you're talking about,
17 why not do it digitally so you don't have to, like,
18 have this, like, massive mail surge?

19 CLARK ELDREDGE: This is --

20 JAMES FUTCH: Why do you do this?

21 NICHOLAS PLAXTON: I'm putting it out there
22 just giving you an idea.

23 CLARK ELDREDGE: That's a goal we've been
24 working on for many, many years.

25 NICHOLAS PLAXTON: Okay. Twenty years.

1 CLARK ELDREDGE: I don't know if you, we're not
2 a red headed stepchild, but we're not the right size
3 for the state agency. This is my best
4 interpretation. In that if we were MQA with all
5 their people, with all that, you know, that's one
6 thing. But some of the solutions that have been
7 suggested at times was, like, oh, why don't we just
8 stick you in the MQA system? Why don't we stick you
9 in the environmental health section with their
10 permitting and licensing, the county health
11 departments, and you can -- but then again, we were
12 doubting that the quality of the service that we
13 would be able to provide our registrants and
14 licensees, when we would not be anything but a
15 appendage on someone else would necessarily be.

16 JAMES FUTCH: I think certain council members
17 have experienced --

18 CLARK ELDREDGE: I think there are council
19 members would certainly with that. Again, at the
20 same time, again, the size we are with the resources
21 we have, by the time, how to say this nicely.

22 JAMES FUTCH: The court reporter is here.

23 CLARK ELDREDGE: The court reporter is here.
24 Um, that the, um, that things happen with your own
25 bureaucracy and agency where we set everything up

1 within current rules and all of a sudden somebody
2 leaves and things get delayed a while and then the
3 rules change. There was one time where they were
4 going to require us to basically spend something
5 like 120, 140K, on a consultant to oversee our
6 projects. We were going to have to hire a outside.

7 ADAM WEAVER: To get money in.

8 CLARK ELDREDGE: Yeah.

9 NICHOLAS PLAXTON: Just to watch it.

10 CLARK ELDREDGE: To watch it. To verify we
11 were following certain development standards and,
12 you know, how we were doing our program writing and
13 things like that. So that was, I think that was
14 just based on the hourly rate that these people got,
15 it was like 125 bucks an hour for however many.
16 That was the contracted rate for the people they
17 were saying we were going to have to hire to oversee
18 it.

19 So we now did, James did a range to hire
20 someone, get another position, and that's one of
21 this person's primary things and the first thing is
22 to get all of our data systems from 19 -- excuse me,
23 a 2008 based PC back end database back into Sequel.
24 And, you know, so from a 16 bit database to a -- so
25 that's where we're at.

1 JAMES FUTCH: So we have, we have looked over
2 several things over the years. The big systems that
3 are out there would probably cost us 150 to \$200,000
4 extra per year because of the number of -- they
5 assign licenses based on the number of widgets,
6 licenses and stuff like that. We actually have many
7 pieces. We hope to have some of this in place by
8 next year. So the database has been converted to
9 Sequel. All the tables to the Sequels tables.

10 CLARK ELDREDGE: Actually, they've been
11 successfully done yesterday, the day before.

12 JAMES FUTCH: The screens are built for in
13 house. It's to connect all different parts of the
14 screens to feed and pull data from the right part of
15 the database.

16 ADAM WEAVER: I hope your character spacing is
17 good.

18 JAMES FUTCH: We're actually using tools that
19 dynamically assign that it. Trying to stay somewhat
20 --

21 CLARK ELDREDGE: I guess I -- one more thing to
22 add for the court reporter is that my -- there's no
23 "I" in my last name. My spelling of my name is
24 E-L-D-R-E-D-G-E, so if you'll make it that way in
25 the next transcript.

1 RANDY SCHENKMAN: Okay. Is everybody ready for
2 lunch?

3 JAMES FUTCH: 12:30.

4 RANDY SCHENKMAN: Yes?

5 ADAM WEAVER: So what time is it now? 12:30?
6 Be back at 1:30?

7 RANDY SCHENKMAN: Yeah. So we'll be back at
8 1:30.

9 ADAM WEAVER: If possible.

10 GEORGE GILBRIDE: As long as lunch isn't on
11 I-4, I'm all for it.

12 CHANTAL CORBETT: Huh?

13 GEORGE GILBRIDE: As long as lunch isn't on
14 I-4, I'm all for it.

15 BRENDA ANDREWS: How about right across over
16 to the Hilton if anybody wants to go there. Same as
17 what we usually do.

18 (Proceedings Recessed at 12:29 p.m.)

19 (Proceedings Resumed at 1:40 p.m.)

20 (Mark Seddon Joins Meeting)

21 RANDY SCHENKMAN: Okay. So we now have
22 Members/Emerging Issues.

23 JAMES FUTCH: And with your permission. I have
24 a little detour that we were going to do this
25 morning, but we waited until everyone was here so

1 that Cindy would be a little more on the nervous hot
2 seat. So let me just stand up and speak for just a
3 second. You all watch the time; don't have me
4 talking for forever.

5 So those of you who got here late, Ms. Becker
6 is retiring the end of next month after 35 years,
7 six seconds, four microseconds. I'm not sure.

8 CINDY BECKER: Something like that.

9 JAMES FUTCH: From Florida, having started in
10 another state and come to us. So we're going to do
11 the official send off retirement in the end of
12 October in Tallahassee and all the rest of that.
13 But we had a little mini, a little mini snippet of
14 things that we would like to share, beginning with
15 me talking, which is always a problem.

16 We've had several bureau chiefs in my tenure.
17 Clark and I have been here for, I forget, 34 --

18 CLARK ELDREDGE: Thirty-four years.

19 JAMES FUTCH: We've had a few folks in front of
20 us who have been there even longer. So I started in
21 '88; Clark in --

22 CLARK ELDREDGE: '88.

23 JAMES FUTCH: Cindy '87. And we had bureau
24 chiefs who have come and gone. Ph.D.'s in biology,
25 excellent managers for a little while. Nuclear

1 physicists, I guess, right, Mary for a little bit.
2 The nuclear med tech, and then Cindy, which is
3 mostly from the inspection side. Heavy background
4 in inspections and, in fact, when she came to
5 Florida, became eventually the administrator for the
6 inspection section and then bureau chief in 2011, if
7 I remember right. She doesn't know. So I'm making
8 most of this up. No, just kidding. I just went
9 back and looked at this.

10 So the very first council meeting she attended
11 as a bureau chief was in 2012, May of 2012 I think.
12 And I had meant to pull that up there and go through
13 some of the subjects, but we talk about a lot of the
14 same things. Things change a little bit, new
15 technology here and there, but it's the same kind of
16 issues and problems.

17 So I wanted to show you a little bit of slides
18 first and then I wanted to make a presentation.
19 There's no music unfortunately, unless somebody
20 wants to stand up and start dancing.

21 BRENDA ANDREWS: Cindy and I will.

22 JAMES FUTCH: This is actually Cindy in her
23 role as inspections manager. This is a field
24 training exercise.

25 ADAM WEAVER: A radium source.

1 JAMES FUTCH: Actually, she's holding a Ken
2 Behr InSpEctor 1000. Like one of the very first
3 handheld cup in physicist inspector device that
4 could tell what material it is that you're getting
5 gamma radiation from.

6 And let's see if this works. Yay, it works.
7 This is us. Cindy is there holding the sign. It's
8 a storage --

9 CLARK ELDREDGE: Bellefond.

10 JAMES FUTCH: Is that what it is?

11 CLARK ELDREDGE: That's Bellefond.

12 JAMES FUTCH: Bellefond. Mike Phillips to the
13 left and then Clark and then me. We were all there
14 anyway. So this is the nuclear power plant that
15 almost was up in Alabama. If you've never been
16 there, excellent place for training. I mean, every
17 single thing for the plant is really there. Just
18 never loaded the fuel.

19 So this is kind of the side of, you know, hands
20 on in the field, not the bureau chief position
21 necessarily.

22 This is -- there's some stuff here from earlier
23 in the career, which we included mainly for, you
24 know, fun value and I think you'll see why in a
25 second.

1 This is Cindy carrying, I'm not sure which one.

2 CINDY BECKER: David.

3 JAMES FUTCH: David. You get a better shot
4 there. I should probably expand it, but you get the
5 idea.

6 She was also very popular. This is her
7 Simpson's character alterego. I don't know where
8 that came from but it was in the files someplace
9 with --

10 CINDY BECKER: Okay.

11 JAMES FUTCH: -- your name on it.

12 CINDY BECKER: That's not good. Somebody made
13 that up.

14 JAMES FUTCH: And then we have a fair number of
15 pictures and various trainings and probably some
16 retirements in here.

17 This is Nancy Houston, who worked in the
18 division for inspections for a while.

19 BRENDA ANDREWS: Is that ugly sweater day?

20 JAMES FUTCH: This one is kind of interesting.
21 This is my predecessor who ran the Rad Tech program
22 almost from its inception, Barry Chomchesky. You
23 can't tell. This is Cindy. You get a better shot
24 of this hairdo later on.

25 BRENDA ANDREWS: That's her?

1 CINDY BECKER: It's the 80s hairdo.

2 JAMES FUTCH: This is Dr. Jarrett. He was the
3 bureau chief when we first started. I can't see, is
4 that Mike Gilly? Manager.

5 CLARK ELDREDGE: That's Gilly.

6 JAMES FUTCH: Harlon Keaton, who was the
7 environmental for many, many, many years. Is that
8 Mary?

9 CLARK ELDREDGE: That's Mary Clark.

10 JAMES FUTCH: Mary Clark. The reason I'm at
11 the Bureau of Radiation Control. That's the nuclear
12 physicist whose husband, John Fox, was a major
13 professor at FSU when I was going through. So when
14 it came time to find a job, he said, there's one
15 over here at this radiation control my wife works.

16 CLARK ELDREDGE: I guess I'll be really
17 spiteful at this point. Mary Clark offered me a
18 job.

19 JAMES FUTCH: Oh, wait a minute. I gotcha.

20 CLARK ELDREDGE: And then about three days
21 later or four days later, she tells me that Walt
22 Kline really needs you to work for him.

23 JAMES FUTCH: Okay. John Fox was a very, cool
24 guy. They named the linear accelerator building
25 after him, after he passed away many years ago.

1 Here's some of our Department of Energy
2 partners. Gerald Walsh from Rapt 3 in Savannah
3 River our back up in case anything blows up in the
4 State of Florida radiologically. Eric Kerr is one
5 of our inspectors. And you can see it's not all
6 work all the time.

7 This is, this is Debbie Gilly, who went to IEA
8 and worked over there for many years.

9 KATHLEEN DROTAR: Is that Debbie?

10 ADAM WEAVER: That's Debbie.

11 JAMES FUTCH: This is the one I like right
12 here. You can't ever get enough of this hairdo.

13 CINDY BECKER: I know. Never.

14 JAMES FUTCH: Somebody has conveniently told us
15 what year it was.

16 BRENDA ANDREWS: '88 or '89.

17 JAMES FUTCH: You might remember some of these
18 managers. This is Ray Gill.

19 ADAM WEAVER: There's Ray. Young Ray.

20 JAMES FUTCH: That's Art Glen, who's another
21 great long time inspections manager from the Orlando
22 area.

23 KATHLEEN DROTAR: Didn't he used to bring you
24 cookies?

25 JAMES FUTCH: Yeah, Mississippi Mud Pie. And

1 this, of course, is Clark.

2 CLARK ELDREDGE: That's me.

3 JAMES FUTCH: We didn't feel good having only
4 Cindy showing up here with the ancient photos, the
5 embarrassing photos. This is Clark, we think
6 running dose assessment at one of the nuclear power
7 exercises with the aforementioned Walt Kline who
8 took the job -- whom you took the job with. And
9 another one of our former x-ray people, Dan, I can't
10 remember his last name.

11 CINDY BECKER: Cannon.

12 JAMES FUTCH: Yeah. But Clark and I were
13 talking before you see my pictures. He looks so
14 mature in this picture and he's not. But he had a
15 beard. It was a very much a different color back
16 then.

17 CLARK ELDREDGE: Yeah.

18 JAMES FUTCH: And then in case you haven't --
19 anyway. I got to close my eyes for this one.
20 Ready? There you go.

21 (Laughter)

22 BRENDA ANDREWS: Shut up!

23 CINDY BECKER: He was 12 when he came.

24 JAMES FUTCH: That's my twin brother.

25 BRENDA ANDREWS: He looks 15.

1 JAMES FUTCH: See what I mean now about the
2 beard?

3 CHANTAL CORBETT: They hired minors back then.

4 CLARK ELDREDGE: I would've looked younger than
5 him without the beard.

6 CHANTAL CORBETT: Without the beard. That's
7 true.

8 JAMES FUTCH: That's Mike Gillan, one of our
9 tutors, again with dose assessment because I'm
10 standing in front of a computer.

11 BRENDA ANDREWS: Look at that old computer.

12 JAMES FUTCH: Yep. It's probably got green on
13 it or amber.

14 CLARK ELDREDGE: I will explain. The reason
15 you see James and I running the computers is because
16 back then, we were one of the few people who knew
17 how to turn one on.

18 JAMES FUTCH: That's like now when the young
19 people, you go how do you make this phone work?
20 Would you make this work, please? Back then it was
21 us.

22 So there's some other additional views from
23 different goodbyes and hellos and so forth and so
24 on.

25 This one has, here's Cindy over here in this

1 corner. This is George. We can do this later.
2 This is our former bureau chief just before Cindy.
3 This is Bill Kasetti over here. This is Dennis
4 Mitchell, an inspection manager in Fort Myers region
5 I think.

6 ADAM WEAVER: Tampa.

7 JAMES FUTCH: Tampa. And there's Ray again.
8 Ray Gillan. Let's see what else we got.

9 This is Dr. Jose Quatics, who was the manager
10 in the Miami office for inspections for many years.
11 Wesley Knoll from Polk County and several of the
12 other ones. Current manager, I think that is, is
13 that -- Dan?

14 That's Dan Boric. He's the manager of the
15 inspection office in Fort Myers and Tampa. And Paul
16 Pavlick, he's retired, but was the Jacksonville
17 manager.

18 This is one of our long-time staff, Janet
19 Cooksey, who passed away earlier this year, after a
20 long time. She was kind of like the administrative
21 memory and the person whom everybody went to to make
22 things work smoothly inside the system, so to speak.
23 A very sweet person.

24 Cindy is way in the back here. This is an HVS
25 meeting, various other staff, former staff. Mike

1 Phillips here, still with us.

2 And that's Cindy. And I like this one.

3 Variation on a theme. Another one of our former
4 accounting staff, Tommy Dalmore, who's passed away.

5 I think it's some of the same folks. Phillip
6 Thomas, maybe some of you guys remember him. Long
7 time employee in the x-ray office. Back here in
8 this corner is Richard Parm, who was another bulwark
9 of the inspections group until he --

10 CLARK ELDREDGE: Mike Stevens in the middle
11 there, middle of the back.

12 JAMES FUTCH: Mike Stevens still working for
13 the, down the hall from Giovanna. Actually right
14 next door.

15 GIOVANNA MANNING: I need to take pictures.

16 JAMES FUTCH: And I think this might be --
17 might be the last one. I'm not sure. Cindy over
18 here on this side. Some of the same folks you just
19 saw.

20 We'll end with this one. You can tell what era
21 this was from. Men In Black was popular. Here's
22 Cindy in the middle and the rest of the staff.

23 And we have a physical thing some place.

24 And this is -- I'll read this. It's not
25 actually from me. This is from the Advisory Council

1 on Radiation Protection. And it says, Certificate
2 of Appreciation is hereby awarded by the Bureau to
3 Cindy Becker for over ten years of excellent service
4 to the Advisory Council Radiation Protection and its
5 members. And it's got all your names individually
6 on it below here and it's got the Chair and
7 Vice-chair who signed it and I think will make the
8 presentation to her.

9 CINDY BECKER: Oh, boy.

10 JAMES FUTCH: Picture.

11 BRENDA ANDREWS: I'll take a picture with her
12 afterwards.

13 CINDY BECKER: Thank you, guys.

14 (Applause)

15 GEORGE GILBRIDE: Speech, speech.

16 JAMES FUTCH: If you would like to individually
17 sign that before Cindy gives her prepared speech,
18 you can sign next to your names if you want to. You
19 can pull it out of there. She'll have all your
20 individual --

21 GEORGE GILBRIDE: Speech, speech, speech.

22 You're done.

23 CINDY BECKER: Thank you all. This is my first
24 official retirement thing. But, no. Thanks. I'm
25 going to start crying already.

1 This is a wonderful group. I'm glad you all
2 have been a part of, many of you, of course for many
3 years. But if you could, you know, say anything
4 about this group, it's the teamwork. Back to what
5 Jennifer was saying. And this group has contributed
6 so much as far as learning. I've learned so much
7 being part of you all and your amazing talents and
8 just sharing that with us is -- I know James and
9 Clark, it's just, we couldn't do this without this
10 group here. Because we don't, we don't have all the
11 expertise here and the training, Mark.

12 Mark providing training for us and our staff,
13 as many of you have also offered. It's just a
14 wonderful group. I'm going to miss all of this and
15 all the learning, but I can come back and --
16 participate, right.

17 RANDY SCHENKMAN: Please do.

18 CINDY BECKER: I'll show up, and like, who's
19 that? But thank you all for being part of this
20 group and thank you.

21 (Applause)

22 RANDY SCHENKMAN: We thank you for everything
23 you've done.

24 KATHLEEN DROTAR: Yes.

25 JAMES FUTCH: Oh, yeah. Everybody, if we can

1 hang around because, I went back looking for
2 pictures. We have almost no pictures of council
3 members. I think this would be a great time to do
4 one before everybody departs, whenever this meeting
5 is over today. We'll take a group picture some
6 place, maybe the front of the room, with Cindy in
7 the center.

8 GIOVANNA MANNING: In front of the Beatles.

9 JAMES FUTCH: In front of the Beatles.

10 RANDY SCHENKMAN: Member/Emerging Issues.

11 JAMES FUTCH: So we have a little block of
12 time. That was the intention, I think, 15 minutes,
13 to talk about any member issues or emerging issues
14 that may have happened.

15 Kathy actually had one which was brought up
16 before the meeting, which is kind of, I had a
17 discussion with MQA staff about the licensure
18 process and they promised to be here at the next
19 meeting so that we can do that.

20 And Mark and I and Clark had been talking
21 offline, sequentially and serially, about the issue
22 we started, I think the end of the last meeting
23 about speech-language pathology and the role of
24 general radiographer and the radiologist in that.

25 Mark has gathered a bunch of documents at my

1 request.

2 MARK SEDDON: Too many.

3 JAMES FUTCH: And also input from some
4 different societies, which is probably far too much
5 for doing much with today except to maybe say that
6 we'll have that as a topic for the early part of the
7 next meeting.

8 But there's a -- just a, just so as a
9 background on this, so the speech -- we would
10 appreciate when you go back to your facilities, any
11 information you can provide about how modified
12 barium swallows are conducted in your facilities or
13 maybe not your facilities, ones which you're aware
14 of, you have someone that you know that can provide
15 that. It seems as if it is sometimes done with
16 three radiologists present and speech-language
17 pathologist and the Rad tech. And then in other
18 places, it's just the two. It's just the SLP and
19 the general radiographer.

20 Clark and I have a regulation, but Phillip Tom
21 wrote it many years ago, which touches on
22 fluoroscopy and the people and the criteria for
23 doing that in kind of a tangential way. From my
24 standpoint, there's a requirement for general
25 supervision for the radiographer, which does --

1 cannot be provided by the SLP because they don't fit
2 in the statutory definition of licensed
3 practitioner, which is not necessary because the
4 other physicians who are part of that, can provide
5 that general supervision which does not have to be
6 personal at the site. It's general supervision by
7 that statute, which means could be the availability,
8 including by telephonic means. And I think that's
9 it.

10 CLARK ELDREDGE: And then in my case, it's the
11 exposure must be authorized by a licensed
12 practitioner, which the SLP is not one under our
13 codes. So that's, in that case, there's the piece
14 of how the guidance and the interaction between
15 people work and how that authority can be
16 transferred, you know. How the speech-language
17 pathologist can actually provide any sort of
18 interaction at that level as a delegate of a
19 licensed practitioner.

20 JAMES FUTCH: So in that case --

21 CLARK ELDREDGE: What's needed in that case.

22 JAMES FUTCH: So in that case where there's
23 just two, the SLP and the general radiographer, we
24 would envision, this is what I postulated, is that
25 there is the facility radiologist, other physician

1 who is providing general supervision at the
2 facility, perhaps has written protocol for the
3 modified barium swallow. It would be nice if the
4 written protocol envisioned the use of the SLP for
5 providing what their expertise allows them to
6 provide in the course of that procedure. And then
7 the radiographer is recording according to that.
8 And the whole thing gets packaged back up and goes
9 to the radiologist or whoever the interpreting
10 physician is for diagnosis and treatment.

11 And if you, during the course of talking
12 amongst your facilities, anything that's involved in
13 that, anything that verifies or rebuts that, perhaps
14 let us know at the next meeting.

15 And note to Becky, who's not here, you also,
16 please.

17 CLARK ELDREDGE: Okay. Another emerging issue
18 thing is, I was selected, I'm not sure why, to
19 attend a workshop in DC on updates to NCRP 184 or --
20 which is the dose to the public. 184 updated 160.
21 And this is for getting -- tracking and updating the
22 medical exposure data. And it's being attended --
23 apparently it's been funded by CDC. It's being --
24 they'll be two members each from, if I can remember
25 everybody, CDC, NCRP, AAPM, ACR -- I'm missing

1 somebody at the moment.

2 Anyway. Several groups. And to discuss this.

3 So if you all have something that -- this is in

4 November -- 14th I think.

5 Getting data from medical procedures, exposure
6 data from medical procedures, for medical practices
7 to be able to feed back up to CDC, NCRP so that they
8 can use that information to update what's happening
9 and provide guidance back to them. And so that's
10 what they're looking -- that's what they -- this is
11 supposed to be some sort of brainstorming session of
12 how, if there's something up there. Apparently,
13 they did one, I was told, 12 years ago or something
14 like that and threw up their hands because they
15 couldn't think of anything. And so, I don't know
16 that there's a lot of hardware out there these days
17 that tracks all that as you take x-rays, but it's
18 not like it's being combined into a central database
19 anywhere, you know, but --

20 JAMES FUTCH: This was dose in general, not
21 just therapy.

22 CLARK ELDREDGE: Yeah. This is all diagnostic,
23 all -- any and all procedures that are using,
24 involving radiation.

25 MARK SEDDON: So there's a lot of dose

1 management check software out there that's currently
2 available, but as far as accumulating it across
3 facilities, and you're going to have gaps,
4 especially in physicians office, dental; other areas
5 like that. That's where you're going to have your
6 gaps. In a hospital setting, I think almost every
7 hospital setting has some type of dose management.

8 ADAM WEAVER: And if they're joint
9 commissioned.

10 MARK SEDDON: If they're joint commissioned for
11 accreditation services, you're required to do that.

12 CHANTAL CORBETT: You're required to have
13 records for dose management. That doesn't mean they
14 have software. The problem is the older equipment,
15 they can't tie in to some of those softwares because
16 of the software, the age of the equipment.

17 MARK SEDDON: Like for fluoro, every fluoro has
18 a dose sheet. Even the old software systems use OCR
19 to do character recognition to go ahead and scan in,
20 even if you don't have the dose report being
21 submitted by the equipment, yeah, through packs, it
22 will still capture that and analyze it.

23 CHANTAL CORBETT: Yeah. Just filtering out
24 that data is --

25 MARK SEDDON: But how to get all that into one

1 index is a challenge. I mean, they have a national
2 data registry for CT.

3 ADAM WEAVER: How do you do dental? How do you
4 podiatrists?

5 MARK SEDDON: Those are the gaps you're going
6 to have.

7 ADAM WEAVER: Chiropractors.

8 MARK SEDDON: Yeah, chiropractors, yeah.

9 RANDY SCHENKMAN: Anything else? Okay.

10 KATHLEEN DROTAR: I don't know if this would be
11 the right time, but could you just tell us a little
12 bit about how your department is working with ARRT
13 for approval of, for CE approval?

14 JAMES FUTCH: Sure. There's a -- well, we're
15 in the middle of a rule change to change our CE
16 rules in Florida to conform to the national CE
17 consensus standards which is an ARRT hosted process.
18 They use an acronym called RCEEM. Recognized
19 continuing education.

20 KATHLEEN DROTAR: Evaluation.

21 JAMES FUTCH: Mechanisms. That can be a state
22 like us, that can be a professional society like
23 Society of Nuclear Medicine. ASRT. And there's a
24 set of standards. So for example, if you, if you
25 read textual material, how long does that take?

1 There's a standard in there for, I think it's 140
2 words is like a minute's worth or something like
3 that, worth of CE. How many test questions should
4 you have if it's a two CE course. It's X number of
5 test questions per credit hour.

6 And the idea is by using the standardization
7 document, and we meet every year, CE staff from my
8 office travel, including through the pandemic
9 remotely, and meet with the other RCEEMs annually to
10 discuss any of the changes in that process.

11 So the bottom line is that, including standards
12 for what you put on the certificate to show, minimum
13 documentation to show it's approved.

14 And by doing all that, a technologist in
15 Florida, so a nuclear med tech takes a course here,
16 a radiographer takes a course here, it's three CE
17 hours, Florida approved. I don't want to use this
18 to renew my national license with ARRT. I want to
19 use it to renew my license with one of the other
20 states. It's accepted.

21 So you don't -- it's an advantage to the
22 technologists. You're not buying, you know, 12 or
23 24 hours of CE in every place you're certified.
24 It's one set of CE and you can use it essentially
25 anywhere.

1 KATHLEEN DROTAR: Right now, if it's Florida
2 DOH approved, it's only for people licensed in
3 Florida.

4 JAMES FUTCH: Well --

5 CHANTAL CORBETT: For FNMT, for our speaker
6 CEUs, for FNMT, for the VA techs, it doesn't work.
7 If they don't have a Florida license. So we would
8 have to go and pay the other societies to get them
9 to approve it, so that they be could use it for
10 another state.

11 KATHLEEN DROTAR: Yeah. So we have to get
12 things approved, it's through DOH and then ASRT, and
13 then there's that national acceptance. So that
14 being a RCEEM would probably take care of that extra
15 step.

16 CHANTAL CORBETT: Yeah.

17 KATHLEEN DROTAR: The Department of Health
18 doesn't charge.

19 JAMES FUTCH: Yeah. ARRT has got its own way of
20 doing things.

21 CHANTAL CORBETT: NMTB is the same way.

22 JAMES FUTCH: The big dogs.

23 CLARK ELDREDGE: That would be an economic
24 advantage to Florida educational providers?

25 KATHLEEN DROTAR: Yes.

1 JAMES FUTCH: I would think so.

2 KATHLEEN DROTAR: Yes.

3 JAMES FUTCH: That was the theory behind it.

4 CLARK ELDREDGE: That may answer that question.

5 JAMES FUTCH: The idea was one set of rules.

6 You develop a product you can sell it anywhere.

7 It's the argument I've used trying to get a rule

8 approved.

9 CLARK ELDREDGE: Yes, that's what I was saying,
10 yeah.

11 JAMES FUTCH: All right.

12 RANDY SCHENKMAN: Anybody else have any
13 questions? Anything?

14 Okay. Nicholas.

15 JAMES FUTCH: I'm going to ask, Nick, if you
16 don't mind. One more thing.

17 NICHOLAS PLAXTON: Sure.

18 JAMES FUTCH: I'm supposed to go after you with
19 the Rad Tech update.

20 RANDY SCHENKMAN: Right.

21 JAMES FUTCH: Would you mind terribly if I took
22 five minutes and did it real quick? That way they
23 can ride out with you, so to speak.

24 NICHOLAS PLAXTON: Go ahead. Ride it out.

25 CLARK ELDREDGE: Ride out to the sunset.

1 JAMES FUTCH: We have -- let's see if can find
2 the right list. So we have, on the HR side, we have
3 one vacant position right now. And that's basically
4 an IT position. It falls underneath me and we hope
5 to have that one filed some time in the next month,
6 HR permitting. We're actually sitting in on doing
7 interviews for the division almost exactly the same
8 position, so we're interviewing a whole bunch of
9 candidates that aren't going to work for us but for
10 you.

11 CHANTAL CORBETT: On site or remote?

12 JAMES FUTCH: No. On site. We did one remote
13 for the guy in Columbia. He was super educated.
14 Highly experienced, former Motorola employee. IT
15 engineer manager. And the conditions are such that
16 he's willing to work for roughly \$50,000 a year and
17 move to Tallahassee. So that's how bad the job
18 market is.

19 CHANTAL CORBETT: That sounds better than --
20 it's on the high side.

21 JAMES FUTCH: I usually give, there's an MQA
22 person here doing an MQA update. I'll slip this in.
23 We crossed the threshold. We 30,175 Rad techs
24 currently active in the State of Florida.

25 I don't know how this happened. 45 registered

1 assistants according to MQAs numbers. I don't add
2 it up.

3 KATHLEEN DROTAR: Really? That's the most in
4 any state I think.

5 JAMES FUTCH: I know. That's what they came up
6 and that's what they say.

7 This past quarter, they received approximately
8 750 new applications. In that same quarter,
9 approximately, just under 500 folks were licensed.
10 That's not a one-to-one correlation because the
11 people who are coming in are not going to get
12 licensed until another, possibly another quarter.

13 We have two applications that have come in that
14 we're -- we've given to legal that we believe will
15 be denied if they agree with it. I just want to
16 give you a snippet of this.

17 One particular gentleman applied. He's been
18 revoked by New York. He has committed the crime of
19 unlawful surveillance with an electronic device.

20 GEORGE GILBRIDE: Voyeurism.

21 JAMES FUTCH: Some states call that video
22 voyeurism. Unfortunately for him, he did it in a
23 bar in a women's restroom. Over the top of a stall
24 or maybe under a stall. I'm not sure which. I
25 didn't want to read too much.

1 We felt that was grounds for denial. We have
2 the ability with our statute, to deny someone who
3 has committed an offense that would've been a
4 disciplinary offense had they been certified by us
5 at the time. So that's acted against by another
6 certification authority and we have a crime against
7 a person. And I would also argue a crime that
8 directly relates to the ability to practice. I want
9 to kind of throw this one out.

10 These -- this particular, particular offense is
11 hard for lawyers to use. They don't like to use it
12 too much because it's a little swishy. It's not a
13 piece of paper like, yes, you committed this crime.
14 Here it is. It's, you have to tie it to the
15 practice.

16 I would argue, and correct me if I'm wrong, but
17 I would argue that the radiography profession
18 certainly has very similar situations where the
19 technologist is in close proximity to someone who is
20 disrobing, putting things on and off in an area that
21 they believe to be private. And also the
22 physicality of maneuvering for procedures and also
23 where you might be out of the line of sight of the
24 person, allows you to do lots of things that would
25 be very similar to what this particular person did.

1 So I always argue that it directly relates to the
2 practice.

3 KATHLEEN DROTAR: I think that would be covered
4 somewhere in practice standards.

5 JAMES FUTCH: Yeah. It's the direct part of it
6 that's tough.

7 KATHLEEN DROTAR: And ARRT, if they were a
8 radiography person, the ARRT would have revoked or
9 put them on probation at a minimum.

10 JAMES FUTCH: It might still happen.

11 KATHLEEN DROTAR: Yeah.

12 CHANTAL CORBETT: I guess that is the other
13 question, because if they're coming in by
14 endorsement because they've been already revoked by
15 a state, who are they still registered by?

16 JAMES FUTCH: ARRT.

17 CHANTAL CORBETT: Yeah, so they probably
18 haven't renewed to be able to -- either they've lied
19 and said they weren't been convicted or, you know.

20 GEORGE GILBRIDE: Or they haven't come up with
21 renewal yet.

22 JAMES FUTCH: They haven't been up for renewal
23 yet. It may just be a time factor.

24 CHANTAL CORBETT: Right. Or they haven't been
25 up for renewal yet, yeah.

1 JAMES FUTCH: I don't think they're aware of
2 the revocation in New York.

3 KATHLEEN DROTAR: ARRT won't act until a charge
4 has actually been, if there's actually a judgment
5 against that person, too.

6 CHANTAL CORBETT: Right.

7 JAMES FUTCH: What -- it doesn't have to be
8 now, but I would be very interested in opinions,
9 perhaps in a future council, maybe trying and say it
10 is the council's opinion that these certain types of
11 things are directly related to the practice of
12 radiologic technology.

13 CHANTAL CORBETT: Are we -- have they been
14 convicted of said things?

15 JAMES FUTCH: Oh, yeah.

16 CHANTAL CORBETT: That's what she was, along
17 those lines.

18 JAMES FUTCH: Relatively recent in time. Three
19 years, four years. Something like that.

20 CHANTAL CORBETT: I have known other techs who
21 have had other issues, have been arrested and in the
22 end, they weren't convicted.

23 JAMES FUTCH: That one should be pretty
24 straightforward.

25 The other one is a little bit odd. It's a

1 military person who was in a different profession.
2 Had access to the pharmacy; stole a number of pills,
3 none of which were controlled substances and was
4 discharged other than honorably from the military
5 relatively close in time. Not that long ago. The
6 military lists that as a misdemeanor, but our folks
7 look at the number of pills and the particular
8 substances and we go by Florida law and how they
9 would treat that. Even though it happened in
10 Florida in the military, military base. And it
11 would be a felony in Florida.

12 And this one, we're also seeking denial because
13 the -- because of the, the kind of crime that was
14 committed and the proximity to controlled substances
15 and other things like that --

16 KATHLEEN DROTAR: Yeah.

17 JAMES FUTCH: -- we would argue is, it's pretty
18 close to a practice of, specifically nuclear
19 medicine technology, which is what this person is.

20 CHANTAL CORBETT: You've got control, yeah.
21 For sure.

22 KATHLEEN DROTAR: Yeah.

23 CHANTAL CORBETT: Morphine and everything else,
24 yeah.

25 KATHLEEN DROTAR: Well, even applications to

1 ARRT and I'm sure, NMTCB, they look at military
2 records as well.

3 CHANTAL CORBETT: But the questions on renewal
4 of felony. And so, if it wasn't considered that,
5 when they were in the military, they could still
6 technically answer that as a no.

7 JAMES FUTCH: The ARRT angle is unique so far
8 in this one because the military listed it as a
9 misdemeanor. Also, the reason for discharge was
10 drug abuse.

11 KATHLEEN DROTAR: That's a different story.

12 JAMES FUTCH: When you fall into that category
13 with ARRT, you fall into the category of a
14 disability and they look at it that way. So this
15 person may continue to be licensed by ARRT. So I'm
16 not sure how that one is going to turn out but
17 that's what we argued for. Anyway, I just wanted to
18 give you an update.

19 Speaking of the discipline issues, different
20 cases, we usually have between 50 and 70 discipline
21 cases open on the Rad tech profession, including the
22 Rad tech assistants at any given point in time. And
23 fiscal year '21, '22, we actually closed 50 cases,
24 which we closed cases either by successfully
25 prosecuting them or losing your argument with the

1 lawyers who can't find enough legal justification to
2 go forward and you close it, sometimes with a letter
3 of guidance.

4 So we started out the year with approximately
5 60 or so. We closed 50 during the fiscal year;
6 unfortunately, opened 56. So we're net plus six
7 there. And currently, we stand at 65. That's
8 probably just the way it's always going to be.

9 The distribution, in case you're interested in
10 how that plays out, there's a number of statutes,
11 you know, 30 or some odd individual statutes, and
12 the unprofessional conduct one can have umpteen
13 subparts depending on the kind of conduct you
14 conduct. So a group like this, about one third of
15 the cases involve action by national registry or
16 another state. In other words, they're taking
17 action against them in another jurisdiction. And
18 under Florida law, whenever that happens, we will
19 take, more than likely, the same action or at least
20 suspend them until the action in the other
21 jurisdiction is lifted. So about a third fall into
22 that category.

23 About a third are unprofessional conduct, which
24 you might expect. And the third are follow-up
25 cases, follow-up complaints because the person

1 didn't comply with the final order that was issued
2 in the initial discipline case. And that usually
3 means they didn't pay a fine, they didn't do some
4 sort of treatment or they didn't do some sort of
5 follow up. So a third, a third, a third.

6 And I think that's it for the -- that's it for
7 the Rad tech update.

8 I guess one update on the regulations. We've
9 come across an additional little road bump with the
10 regulations. It appears that we may have to add a
11 Sunset clause to future regulations. We may have to
12 add a Sunset clause to future regulations, including
13 the CE one, where the statute is does not provide a
14 shall. It's permissive.

15 So the Florida Statute for CE is permissive.
16 It says you may require CE for technologists and we
17 have since 1980 something. And what it means is
18 that if you want to proceed with the rule making,
19 you put in the sentence that says, words to the
20 effect that, you know, within five years, there will
21 be a review of the effectiveness of this regulation.
22 Including some sub parts. But basically, they want
23 you to look at it to see if you really need this.

24 We usually encounter Sunset with statutes that
25 are enacted. A lot of times, the legislature used

1 to put in a ten-year period to let the law run and
2 then ten years come back and decide if you want to
3 keep the law. If you don't vote to do that, then
4 it's repealed. So that's the only down side to this
5 if we're forced to proceed with this and put this
6 language in.

7 Five years from now, if whoever is here at the
8 regulatory level and the general counsel's office
9 and our office, if they determine that the review
10 says it's not usable or more likely, if the review
11 doesn't get conducted in a timely fashion, the
12 regulation goes away by operation of the language,
13 itself.

14 So I don't know which way it's going to go, but
15 that's what we're dealing with.

16 CHANTAL CORBETT: So if that goes into play,
17 could you not do a policy where it's, like, reviewed
18 the year before it's actually going to expire on a
19 routine basis so that you have a year to get it
20 done?

21 JAMES FUTCH: The bear is going back through
22 the rule making process in less than two years.

23 CHANTAL CORBETT: Right. Yeah, I know. It's
24 going to be a nightmare.

25 JAMES FUTCH: It takes at least a year to get

1 through rules.

2 CHANTAL CORBETT: Yeah.

3 JAMES FUTCH: That's if all the parts work. So
4 that's it for the update. Thanks, Dr. Plaxton, for
5 letting me do that beforehand. And unless there's
6 any questions, we're going to get on to the talk
7 with nuclear medicine.

8 RANDY SCHENKMAN: Yes. This is our nuclear
9 medicine discussion.

10 NICHOLAS PLAXTON: Do you want to take
11 five-minute break or something?

12 JAMES FUTCH: If you want to.

13 (Proceedings are recessed at 2:23 p.m.)

14 (Proceedings resumed at 2:30 p.m.)

15 RANDY SCHENKMAN: Okay.

16 NICHOLAS PLAXTON: So I put this talk together
17 for the Florida Radiation -- try again. The Nurse
18 Practitioners of Florida. They have a network and I
19 did this talk for them.

20 So the idea is, like, to just kind of give an
21 overview of what nuclear medicine does for primary
22 care doctors. So it's, like, it's not encompassing
23 all of nuclear medicine, but it's kind of like what
24 does the primary care provider kind of, like, need
25 to know in their wheelhouse to do nuclear medicine

1 things that can help them out.

2 So that's kind of what this -- that's where
3 this kind of goes. I figured, you know, since we
4 have some nonmedical background people that this may
5 kind of, you know, at least fall in your wheel --
6 you'll be able to understand some of this.

7 So, you know, we're all familiar with the
8 radiation symbol. This is basically, like, saying
9 we get a bad rap and you all know this because
10 anybody in radiation, everyone always is like
11 fearful of radiation. And that even happens in our
12 own hospital. I know, like, there's even
13 oncologists that won't see our patients after PET
14 scans because they're scared of the radiation from a
15 PET scan. Which is, you know, a highly educated
16 person that we work with every day and we get PET
17 scans all the time.

18 GEORGE GILBRIDE: That's debatable sometimes.

19 NICHOLAS PLAXTON: Yeah, exactly. But so,
20 that's kind of the thing you deal with, even in the
21 hospital setting, you know, like, people are afraid
22 of -- they see this sign and I noticed that, too,
23 when they have those inspectors that come around,
24 they try to kind of like breeze through real fast,
25 not even stay in our department because they see

1 these signs on the wall.

2 And of course, this is -- we're all familiar
3 with this. This is the atom symbol in the center
4 with the three types of radiation.

5 And then, of course, people think of, like,
6 nuclear power plants, which some of our earlier,
7 like, I131 or 123, these came from that era. People
8 also think that, you know, the principle of $E=mc^2$
9 that Einstein came up with. He never actually, you
10 know, developed the atomic bomb but he actually
11 asked, you know, requested to -- for our president
12 to, FDR to actually, you know, develop it. So he
13 was against making, he was against the atomic bomb,
14 like, working on it, but he said we should do it.
15 So some people kind of associate that. But he never
16 actually worked on it, himself. He did write a
17 letter, though.

18 This is kind of saying radiation -- you guys
19 know a lot of this stuff. The radon around us, this
20 is the high exposure, highest exposure we get as
21 humans is from radon. And so this is kind of a map
22 of the United States of where you get the highest
23 amounts. Kind of the Appalachians, the Great
24 Plains.

25 JAMES FUTCH: I love your colors.

1 CHANTAL CORBETT: Very fiery.

2 NICHOLAS PLAXTON: Yeah. Not too bad down here
3 in Florida.

4 A lot of these places up here, like in the
5 Great Plains, now you have to build houses with the
6 venting systems for your basement so that you don't
7 have a build up of radon.

8 Of course, the sun. We get exposed all the
9 time.

10 Even the stuff we eat has radiation in it. We
11 all know that, you know, potassium, you can't exist
12 without it. Radiation potassium 40. So we can
13 always explain, you know, the amount of radiation
14 you get exposed, 40 bananas equals one radiograph.

15 JAMES FUTCH: If you boil you down to your
16 constituent isotopes, that's one of the big ones.

17 GEORGE GILBRIDE: What kind of radiograph? Is
18 it a chest or abdominal one to get this exposure?

19 CHANTAL CORBETT: Is it PDA or --

20 NICHOLAS PLAXTON: Yeah. I think it's a chest
21 radiograph.

22 GEORGE GILBRIDE: I eat a lot of bananas. Not
23 anymore.

24 ADAM WEAVER: Just a chest x-ray. It's always
25 a single view, too.

1 NICHOLAS PLAXTON: So medical radiation is a
2 big chunk of what we get in the United States. You
3 know, more developed. We love our imaging and so,
4 about 20 percent of your annual exposure in the
5 United States comes from imaging using ionizing
6 radiation. So either CT or x-ray or nuclear
7 medicine imaging.

8 In the diagnostic imaging, this is the CT
9 x-ray, not MRI or ultrasound because it doesn't
10 involve ionization, so that's 15 percent exposure.
11 And then five percent comes from nuclear medicine.
12 And these numbers are a little off. Our imaging
13 gives the same amount of radiation as, like, CT
14 does, it's just that we don't do as much as
15 diagnostic imaging does.

16 RANDY SCHENKMAN: So the rest comes from
17 bananas?

18 NICHOLAS PLAXTON: Could be like the --

19 JAMES FUTCH: Radon.

20 NICHOLAS PLAXTON: Yeah. Most of our radiation
21 comes from natural sources. Can't exist without it.
22 If we didn't have the sun, we wouldn't live here.
23 So it goes hand in hand.

24 So anyhow, review nuclear medicine. Go over
25 kind of the, basically, where, you know, using

1 unstable isotopes that, you know, from the periodic
2 table that are to our advantage for imaging or
3 treatment. Basically kind of your atomic structure.
4 You kind of have unstable, either electrons or
5 protons are unequal so that you have an unstable
6 element and one that would work best for us.

7 In primary care, these are kind of the areas
8 that, that nuclear medicine can help out. There's a
9 big chunk in cardiac with myocardial perfusion which
10 allows to see if you have coronary problems. I'll
11 think I'll go through these, I guess, in more
12 detail, but there's cardiac imaging that we do.
13 Then there's oncology agents that we use. And then
14 there's, like, neurology imaging that we do that you
15 really can't do with diagnostic imaging.

16 And then, you know, the bone scans have been
17 around quite a while and they give a lot of
18 different information.

19 Pulmonary. The VQ scans, which has been mainly
20 replaced by CTA, but there's several people that
21 can't get CTAs. And then thyroid and hepatobiliary.
22 So these are bread and butter for primary care
23 providers. These are the kind of carriers we're
24 talking about.

25 Cardiac imaging, again, the perfusion agents,

1 which is the MPI. This evaluates with the coronary
2 blockage or infarctions in the heart. Viability is
3 when you do have an infarction, you want to see if
4 there's hibernating myocardium. Can you bring it
5 back if you go in and do some treatment.

6 And then a MUGA scan, which is a fancy way to
7 look at the ejection fraction. How your heart is
8 pumping. You can do this with echocardiogram, which
9 is the preferred way. But like, in certain cases,
10 you want to do the MUGA when they have very low EFs,
11 or if it's like, like a lot of clinical studies will
12 require a MUGA instead of an echo because there's a
13 lot of variability in echos.

14 Sarcoid is kind of a newer area where we're
15 realizing a lot of people have sarcoid involved with
16 the heart and never realized it. That kind of goes
17 in hand with this congestive heart failure. Now
18 that we're fixing the perfusion problems, now people
19 are having congestive heart problems. And the other
20 thing that goes along with that is amyloid deposits
21 as well in the heart.

22 And then so, I'll talk about the main thing
23 that we do is like, is the myocardial perfusion
24 imaging. This is kind of the intermediate risk
25 people for coronary artery disease. If they have

1 high risk, they're going to go straight to cath. If
2 they're low risk, you shouldn't be getting the
3 study. So if it's a low risk, you don't use it for
4 screening. Because if you do, you're going to have,
5 end up with too many false positives. It has to
6 have an intermediate risk clinical picture.

7 And so, patients should be -- this is another
8 thing. You'll get people like, you'll read CTs with
9 a lot of calcium in their arteries and they'll order
10 an MPI. So they should have symptoms involved with
11 it, too, like chest pain or dyspnea or, you know,
12 unexplained elevated troponin.

13 These are the different tracers that we use.
14 The most common today is Technetium 99M, which is a
15 single photon that 140, that's kind of like the main
16 tracer that you use in nuclear medicine today.
17 Although that's going to change, we hear shortly.
18 Rubidium 82 is like the big PET tracer that people
19 use. It has a very short half-life of, like, a
20 minute and a half, so you have to have the generator
21 next to the scanner. And so that prevents you from
22 running on the treadmill. But they give great
23 images.

24 The ammonium is a similar -- it's a PET tracer.
25 It has a little bit longer half-life, which is ten

1 minutes, you can actually do a treadmill on these
2 patients, but you need a cyclotron here where you're
3 doing your imaging. So this is good at big
4 institutions that have cyclotrons, like at
5 universities.

6 This is one that's just coming out now. I
7 think they just announced they finally went to this
8 Flurpiridaz, F-18. This is a perfusion agent that's
9 used with the F-18. That's the fluorene that we use
10 for our oncology patients, but it's attached to this
11 molecule. It allows perfusion imaging.

12 So the great thing about this is you have a
13 long half-life. So you can -- the radio pharmacy
14 for us over in Bay Pines is on the other side of the
15 bay, but we get all our radio pharmacy stuff
16 delivered from Tampa. So this one could be shipped
17 from the bay and still do treadmill on the patients.
18 This will eliminate Technetium 99, which we've been
19 doing for years. So this is probably going to be on
20 board in the next year. It's, like, finishing its
21 Phase III trials as we speak.

22 And this kind of a gamma camera with a photo
23 multiplier tube, which senses the photons. That's
24 how we get our images. We inject the radio tracer
25 and then it decays, giving off the photons. Which

1 is opposite of diagnostic imaging where the, you
2 know, your radio pharmacist, or the element is
3 inside the machine and then the photons cross
4 through the patient. So we're actually injecting
5 into the patient.

6 This is kind of the newer set up. So it's,
7 like, a lot easier for the patient. They just sit
8 upright. And then it's much smaller. You can see
9 here the patient is kind of, like, smashed down in
10 there.

11 This is dedicated just for cardiac, so it just
12 images the heart.

13 And this is our typical imaging we get from a
14 heart. And the radio tracer's perfused through the
15 heart. And, you know, there's three main coronaries
16 that feed it. If any of those are blocked, it will
17 have decreased radio tracer in that area.

18 And so if it has normal perfusion, then you get
19 this -- you can picture a heart that's been, like,
20 sliced like a bread loaf. And so you have, like,
21 this is apical views and this is going to be, like,
22 you have rest compared -- stress compared to rest.
23 And those, like, apical views, cross section. This
24 is, like, horizontal and vertical -- or vertical and
25 horizontal. So you can have different views of the

1 heart.

2 But basically, if you look -- imagine a heart,
3 you just kind of bread loaf it. So it allows you to
4 look through the whole -- this is what you're
5 supposed to see, a nice perfusion throughout it.

6 And then you can take that information and,
7 like, squish it down into a little plot and that's
8 what this is here. So this is the stress on top.
9 And you can see it's all the same color. That means
10 it's all being perfused equally. And then the rest.
11 It's like a cheat sheet. Not as easy as that, but
12 that's the easy way to read it. So this means when
13 you're stressing patients, they have equal
14 perfusion. And then same thing with rest. So this
15 is a normal patient.

16 And then this is -- I don't have a motion in
17 here, but this imaging allows us to actually watch
18 the heart beat. And this tells you about the gait
19 and it will tell you the size of the ventricle.
20 That's what these numbers are here. And then EF,
21 which should be, you know, above 50 percent for
22 people.

23 So this is a case where you have the
24 stress/rest. And you can see here, this is like one
25 of the coronary arteries is blocked in this case.

1 It's the, you know, left circumflex that's over
2 here. Basically, there's no flow going over here.
3 So this would be consistent with an infarct where
4 the patient had a heart attack and now this is no
5 longer viable tissue.

6 And then, this is the same, same thing on the
7 slices. This is actually ischemia. So you can see
8 here, so on the stress images, which are on top
9 compared to the bottom, it fills in at rest. It
10 means it's getting perfused at rest. Then the
11 patient is stressed and it goes -- it gets blocked.
12 So that means that it's not able to compensate. So
13 basically, this is an at-risk coronary artery. This
14 is what we want to find so they can go and put a
15 stent or do a cabbage before the patient has a heart
16 attack.

17 So this is what it looks like on the imaging.
18 Instead of two matched spots, now you have the
19 normal rest and then when the person goes and does
20 exercise, it blocks that artery. So now we
21 indirectly have been able to figure out that that
22 artery is blocked. And they can in now go to
23 cath and take care of it.

24 So then going to viability radio tracers.
25 There's Thallium, which is one of the older tracers

1 and has a lot of poor quality to it actually for --
2 from the physics standpoint. And then there's FDG
3 PET, which is a PET tracer, which you can think of
4 like a -- so the single photon imaging agents are,
5 like, your low def TV and the PET agent imaging is
6 like your high def. That's kind of across the
7 board.

8 In the future, everything is going to go to
9 PET. But anyhow, so --

10 (Cell phone rings)

11 NICHOLAS PLAXTON: I was going to say, but
12 anyhow, just leave it at that.

13 So here, basically, you have two studies. The
14 one on the left here is your perfusion imaging and
15 it kind of shows, like, a fixed defect. So you
16 consider this as an infarct. And so the question
17 is, is it truly an infarct or not. So then you can
18 do a viability study in this case. And then when
19 you find out that it fills in, then you know that
20 that tissue is viable. Whether you do FDG or
21 thallium. Because thallium can only get across if
22 the sodium potassium pumps are still working because
23 it thinks it's potassium, so it brings it in.

24 Then with glucose, the FDG, that the -- your
25 heart normally burns fatty acids and switches to

1 sugar when it's in distress. So, like, when the
2 dark area would turn bright. So this is a, a
3 thallium study.

4 Anyhow, you can see the area is much smaller
5 than we're seeing on the MPI. So this would be
6 worth going after and trying to recover some of that
7 muscle.

8 So MUGA scan, this is where we tag red blood
9 cells, which there's a couple different ways you can
10 do it with our Technetium 99. And this just
11 assesses how the ejection fraction. Like, the two
12 main reasons they do this is for very low
13 cardiomyopathy to get an accurate EF.

14 And then in -- when you're doing chemotherapy
15 patients, which is the other big reason they want to
16 make sure that the EF is above 50 before they start
17 with a cardiotoxic agent. If it's not above 50,
18 then they'll drop that out of the -- usually
19 there's, like, four or five agents and they'll drop
20 that one that's cardiotoxic and just do the other
21 ones. Then they will monitor them during the
22 therapy to make sure it doesn't drop five percent
23 from their baseline.

24 This is kind of what it looks like. Again, I
25 don't have motion, so it's a little harder to see.

1 But we do -- this would actually be moving. And you
2 can see the heart that, you know, when it beats and
3 it measures. There is other information you get
4 from there.

5 So this is then going to, kind of shifting
6 gears a little bit. This is cardiac sarcoid. And
7 basically, what you do with this is you use our
8 normal FDG PET tracer. FDG is just like radioactive
9 glucose. And so, in this case, the patient with
10 cardiac sarcoid, what they're having is, they tend
11 to have -- they're starting to have congestive heart
12 failure, but without a reason for it. So the idea
13 is that maybe, if they have other signs of sarcoid
14 involvement, you can look into the heart and that's
15 what this patient had. So, basically, there's like,
16 very -- the cardiac walls are involved and they
17 become very inflamed.

18 You can see on here, it is very avid for the
19 FDG. So that kind of is like, confirms that they
20 have sarcoid. Then they can go in and biopsy just
21 to confirm. Obviously, biopsying of the heart has
22 its risks. This kind of confirms that they probably
23 should go biopsy it.

24 And then, like I said before, once we fix the
25 plumbing with the coronary arteries, then a lot of

1 people are having congestive heart failure problems.
2 And that's dramatically increased recently. And so,
3 they've come up with different ways to treat it.
4 They used to have implantable devices that would
5 basically bring you back from, you know,
6 arrhythmias. Now they have these devices, the CRT
7 ones, which resynchronizes. So not only does it --
8 if you have an arrhythmia where you can have -- it's
9 not compatible. It doesn't just shock you back.
10 Actually it will re-sync your heart rate to a
11 normal, like, you know, efficient rhythm is the way
12 to think of it.

13 And so, like when you -- this is looking down
14 the left ventricle. And you have contractility and
15 kind of all squeezed, you can imagine like squeezing
16 a towel out. You like ring it. It should ring
17 equally. This is what a normal heart does. Your
18 left ventricle squeezes at once and then it comes
19 down, so you have a nice -- it empties very well,
20 efficiently.

21 So in a patient that has this congestive heart
22 failure, you end up with -- you can have this,
23 what's called left ventricular dyssynchrony. Where
24 the heart is -- again, I don't have motion here, but
25 you can see there's, like, instead of a nice, sharp

1 peak, like different parts of the muscle are
2 contracting at different times. So this is very
3 inefficient and then hence, leads to their
4 congestive heart failure.

5 So this is important because those CRT devices
6 will mainly work with patients that have this type
7 of congestive heart failure. So before, they didn't
8 really know that. You can put the CRT in. They
9 would find out only afterwards whether it worked or
10 not. Now you can kind of, like, assess it ahead of
11 time. And this is actually using the same software
12 you use for MPI.

13 Amyloid heart failure is kind of like similar
14 to sarcoid. But instead of, the sarcoid
15 involvement, now you have the amyloidosis, which is
16 like the amyloid proteins being deposited in the
17 heart cells.

18 So there's more interest in this now because
19 they have new medications that came out that can
20 treat these. And again, like sarcoid, they
21 probably -- this is probably under diagnosed because
22 they just treat the congestive heart failure and
23 don't look for the cause. So now with these new
24 agents, we can kind of look for it.

25 On an echo, you can see the kind of, like, what

1 they used to call for a cardiac amyloid is like a
2 starry sky. It probably looks blurry to most of you
3 people. But this is the heart muscle here and
4 anyhow, it will give you, like, a starry sky
5 appearance. So you can tell it's very -- you have
6 to, like, people, diagnose using that echo is not
7 the best.

8 So anyhow, the -- one of our older tracers,
9 this technetium pyrophosphate, which was used for
10 bones initially and then it switched over to
11 infarcts. So they kind of -- it was an old tracer.
12 Then they realized that it does work well for this
13 amyloid because it attaches to the amyloid. So
14 basically, in a patient without the amyloid
15 deposition, there's no uptake in the heart. These
16 are kind of the grades. You can see the person in
17 the far right, the grade three has really tense
18 uptake. That means they have amyloid in their
19 heart.

20 And this is just different ways of quantifying
21 it. You can do it with planar images or spec
22 images.

23 So then we kind of shift gears to the kind of
24 primary care oncology imaging that you can think of
25 for their patients.

1 Again, PET camera. For oncology, mainly it's
2 the PET camera because that's what most of our
3 agents are used for. The main one that's been
4 around for the longest time and most radiologists
5 are comfortable reading is this radioactive glucose,
6 which is FDG, which is the F-18. It has a half-life
7 of, like, an hour and ten minutes, which is good
8 because you can transport it around town.

9 The way it works is that when you inject
10 radioactive glucose, the body doesn't recognize it
11 as, like, a foreign type thing except for the
12 kidneys and the kidneys clear it, which is good
13 because it gets rid of the background noise.

14 But the way it works is that most of your
15 aggressive cancers rely on the glycolysis process
16 because it doesn't do the higher end energy sources,
17 so it burns the glucose much higher than the
18 background tissue. It's, like, ten times more than
19 the background.

20 So in these, like, the very aggressive cancers
21 like lung, colon, breast, pancreatic, you know, head
22 and neck, melanoma, these one burn glucose at a very
23 height rate. So wherever the disease is, you can
24 stage the primary as well as the metastatic disease
25 very easy.

1 And so you can see this is like a -- so this is
2 an example of a patient with a right lung cancer, so
3 it's very hot in the lung. And then, you know, in
4 this case, you can see there's multiple bone
5 metastases.

6 The nice thing about it, you can scroll through
7 the entire body. We take our image and fuse it to a
8 CT. So you always get a PET with a CT now. They
9 originally didn't back in the day, but now you can't
10 do one without the other.

11 Anyhow, there's like, this patient had lymph
12 nodes as well. You can see how it stands out very,
13 very bright, so it's hard to miss.

14 These are just some other examples. This is a
15 head and neck cancer where you get, like, the
16 structures start getting much smaller in the neck,
17 but it stands out really well with the glucose.

18 Again, there's several cases of these. You can
19 see these are lymph nodes. Base of tongue cancer.
20 You can see the brain activity. Your brain burns
21 glucose almost exclusively, so it's always hot.
22 Whereas that's why they're developing the
23 fluciclovine, the tracer that you were interested in
24 because it doesn't cross -- it's not utilized by the
25 brain at all. So that -- on the Axumin that we do

1 for prostate cancer, there's no activity in the
2 brain. If you do see activity, then you have to be
3 concerned.

4 Anyhow, these are other cases. Head and neck.
5 This guy has bilateral lymph nodes with necrosis in
6 them. Some of these are obvious. You'll be able to
7 see it on CT. If they are smaller, it's harder to
8 tell.

9 This is, like, some of the newer agents that we
10 have. This is NetSpot, that kind of goes to, I
11 think you were referring to this, the Lutetium 177.
12 So this is a Gallium-68 that's attached to a
13 neuroendocrine. Somatostatin receptor it attaches
14 to. So the Gallium-68 or F-18 could be used for
15 this. You can image neuroendocrine tumors. So once
16 you see that it lights up with this tracer, then you
17 can switch it out either with Lutetium 177 or
18 Yttrium-90. And those are betas and they actually
19 burn off the tumor wherever it's at, whether the
20 primary or metastatic disease.

21 So this is kind of a real breakthrough in
22 neuroendocrine tumors. Both in imaging standpoint
23 and treatment for that matter. Before, you just
24 kind of suppressed it with some anti statin, but now
25 you can actually treat them.

1 So this is a patient that has -- had an
2 neuroendocrine tumor in his small bowel. You can
3 see there's multiple. This is an actual primary,
4 which is very small, which would be hard to see this
5 without our tracer. But you can see there's also,
6 you know, he has, he has multiple liver metastases
7 as well as a lung metastasis. This is definitely an
8 advanced stage, so this is one where there's not a
9 good treatment for it. But now being able to use
10 lutecium, you can treat for this. If you see it,
11 you can then treat it.

12 Prostate imaging is, like, recently been
13 developed. So Axumin is the one they were talking
14 about. This is the artificial amino acid, that was
15 the one you were talking about for brain imaging.
16 It got approved, I didn't put the date in here, it
17 was probably about ten years ago. But it was
18 approved for -- like I said, they found out it
19 worked really well because prostate cancer is not as
20 aggressive as the other tumors, so it doesn't use
21 glucose like the other ones do. But it does have
22 this amino acid up regulation, so it actually lights
23 up really well. That's when they realized we can
24 use this for prostate cancer. So that really
25 changed the treatment of prostate cancer patients.

1 The newer agent that just came out recently,
2 this is prostate specific membrane antigen that it
3 binds to. So this is, you know, little -- even
4 though this Axumin is really amazing for prostate
5 cancer, this one is probably even a little better.
6 So it's like -- this came out just in the last few
7 years. And so, the same thing here is like the
8 Gallium-68, you can switch that out with lutetium.
9 Then you can treat the prostate cancer even if it's
10 metastatic. And those are currently undergoing
11 investigation.

12 And then these are kind of some of the
13 examples. So what ends up happening in prostate
14 cancer is that, like, you know, once it leaves the
15 prostate, it tends to go to the lymph nodes and
16 bone. The thing is, like, in this case, you can see
17 a lot of these lymph nodes are, if you read it with
18 CT, it's not abnormally enlarged, so they wouldn't
19 call it metastatic disease. But here you can see it
20 lights up very well with Axumin, so you know that's
21 metastatic disease.

22 JENNIFER PETERSON: Do you still offer that now
23 that PSMA is available?

24 NICHOLAS PLAXTON: We do, actually. We still
25 have it available just in case, because there's a

1 study that's ongoing right now that if you treat the
2 prostate cancer initially with radiation, in the
3 prostate gland, itself, it recurs locally. There's
4 the -- people are thinking that the Axumin actually
5 is able to detect it better than the PSMA. But for
6 metastatic disease, the PSMA is probably better. It
7 has a -- yeah. So we kind of have both available
8 right now. We'll see as time goes. They're both
9 amazing agents and they both do really well, so --

10 And the nice thing about the PSMA is that,
11 unlike the Axumin, if it lights up on the PSMA, then
12 you know you can use the lutetium 177 to go back and
13 treat it. Because if it lights up hot, then it's
14 going to be eradicated with the beta.

15 Anyhow, so you can see these are very tiny
16 lymph nodes. Like I said, if you're reading these,
17 you would -- they're sub centimeter and you wouldn't
18 call these metastatic disease. But on our imaging,
19 we can confirm that these are metastatic disease.
20 So this has really kind of changed the, you know,
21 how they treat these. And if there's, like, a
22 cluster of nodes, like, they can actually radiate
23 these individually, like, and then, you know, it can
24 stop the recurrence from spreading. So it's really
25 changed the way they treat patients now.

1 And you can see this kind of like the whole
2 body again. You can see how the -- this little
3 lymph node stands out really well.

4 Here's a node that's way up in the chest in
5 this patient, which you wouldn't expect in prostate
6 cancer, but it definitely was. It lit up in the --
7 that's what it ended up being.

8 It also is good for bone metastasis. You tend
9 to have sclerotic, in prostate cancer, so you can
10 see this little white spot in the CT. But it lights
11 up really hot on the Axumin. You still want to do
12 some -- your bone scans with these, because bone
13 scans are still more sensitive than both these
14 agents. But we usually PET most of them.

15 Again, here's the CT. You can see there's like
16 this subtle sclerotic lesion right here, then it
17 lights up really hot. So it's hard to miss.

18 And then this is the, so the other one was
19 Axumin we were looking at. This is PSMA Gallium.
20 Similar, different distribution, because of the type
21 of tracer we're using. The stuff up in the head and
22 neck is just physiologic uptake in the salivary
23 glands and whatnot. But it doesn't usually
24 interfere with our imaging because prostate cancer
25 to be up in the head is very unlikely. If it's that

1 level, you really don't need our imaging anymore.

2 So usually it's down in the abdomen. Sometimes
3 up in the chest. But pelvic and abdomen is kind of
4 where you're looking. So, again, has a really small
5 lymph node, but this is very, very hot.

6 We're going to shift gears again to the lung.
7 And for, like, primary care doctors, that usually
8 means getting a V2 scan, which is a ventilation
9 perfusion. This is looking for pulmonary emboli.
10 And so, you know, the risk factors are if you have
11 recent surgery or if you have long hours of
12 immobility, like long flights or drives, people will
13 get these deep vein thrombosis in their legs and
14 that throws a clot to their lungs and either it
15 is -- it could be fatal. So -- but if they survive
16 the initial one, you want to treat them so they
17 don't keep throwing clots.

18 And they usually have an elevated D-dimer.
19 Like I said a lot of times now, they do this with CT
20 contrast. So -- which is very quick to give. You
21 come in the ER, you can get that -- it only takes a
22 minute to get that scan. So they can get the
23 diagnosis pretty quick. But there's several people
24 that can't get the CTA they have an allergy to the
25 contrast that they have to use or if they have renal

1 failure. So that's a significant portion of people
2 because this is a very common problem. So those
3 people still get DQ scans done.

4 This is kind of what it looks like. So you can
5 imagine, so the person, you actually usually do the
6 ventilation first, which is in this case, we use
7 Xenon. There's a couple different agents you can
8 use, but Xenon is nice because it's a gas.

9 You can hook it up to their mouth and they
10 breathe it in and you get it to be clear and you
11 start removing it from them, their lungs and they
12 breathe it back out. Xenon has a long half-life,
13 but they end up breathing it out, so it's not a
14 radiation exposure to the patient.

15 And you can see this is a -- the one thing with
16 this, you can only take one view unless you do it
17 multiple times and you don't want to do that. So
18 usually we do the posterior imaging.

19 And then, this is the technetium agent that we
20 do, we inject, which will go through their arterial
21 system and then get, basically throws little --
22 these are molecules that get stuck in the
23 capillaries of the lungs. It doesn't affect their
24 physiology. It's not harmful to them. But
25 eventually, it's cleared over time. But it embeds

1 in there for a long enough time and that we can
2 image them in multiple views. So this is a pair of
3 lungs in, like, rotating the view. You take, like,
4 several views in different angles.

5 Basically, what you're looking for is defects.
6 Because if you have a clot that's in your lung that
7 prevents the blood from flowing there, so you'll see
8 a defect on the perfusion, but you won't see a
9 defect on the ventilation.

10 And then, there's, like, segments in your lung
11 that you can kind of pinpoint where it is.

12 So this would be a case of a patient that has a
13 lower -- you can see there's this wedge here. So
14 that's where the blood is not flowing. So that
15 would be a pulmonary embolus that's landed there.
16 And the ventilation image would show no defect. So
17 this is a positive for a pulmonary emboli.

18 You can see a lot of people do present with
19 multiple pulmonary emboli, not just one, as in this
20 case, you can see there's multiple, like, kind of
21 moth eaten bites out of it and the ventilation looks
22 pretty smooth.

23 So this is a patient that's thrown multiple
24 clots. So they're treated the same way, but this is
25 what you tend to see.

1 We're going to shift gears to bone imaging.
2 You can see, what our bone imaging agents do is like
3 detect any -- because your bones are constantly
4 rebuilding themselves on a daily basis. So we're
5 looking for areas of increased or decreased bone
6 activity. And this is kind of mainly for, either
7 for trauma, for infection, tumors, metastatic or
8 metabolic disorders.

9 This is kind of what a normal bone scan looks
10 like. You can kind of see the skeleton there. You
11 do see some soft tissue. It's clear. The renal
12 system. That's why you see the bladder and the
13 kidneys.

14 This is a normal patient. Looks pretty uniform
15 throughout.

16 This is a normal kid. And they -- you can see
17 their growth plates so they're still growing. And
18 so these will be hot. It does cause a little bit of
19 problem if they have a fracture right at the growth
20 plate.

21 This is kind of a typical, like, prostate
22 cancer. Again, it tends to go to the bone. So this
23 is used frequently for prostate cancer patients.
24 And so, the idea is like if the PSA, like when to
25 get it. You don't get it for all the prostate

1 cancer patients, but if it's a PSA that's greater
2 than 20, meaning it's like, they do it in the
3 high-risk patients to get bone mets.

4 If it's below ten and the Gleason score is
5 below seven, then you wouldn't get it. But if it's
6 in a high-risk patient, the chances of them having
7 bone mets are much higher.

8 You can see this patient, they have bone mets
9 up their spine and pelvis. That's typically where
10 it ends up going.

11 We do three phase bone scans, which is we
12 inject, watch the flow and then we do a vascular
13 phase and then the delayed, which is like what you
14 saw in the last imaging. We basically do this for
15 different conditions. One is, one of the most
16 common ones we do it for is osteomyelitis or
17 infection of the bone. So if a person has an open
18 wound or after, like, a surgery and it's not
19 healing, then they can use our imaging to confirm
20 that it's in the bone. MRI is good at this as well,
21 but in the post-surgical state, sometimes it's hard
22 to tell on an MRI.

23 Another one we do it for is complex regional
24 pain syndrome, which has had different names over
25 the years. But, like, if people get trauma, for

1 some reason, it basically alters the nervous system
2 and so the body no longer is able to shut off the
3 inflammation process and it causes, like,
4 significant pain to the patient.

5 We can do it for -- it's very sensitive for
6 shin splints and stress fractures. Whereas, like,
7 other imaging, diagnostic imaging is hit or miss.
8 Sometimes it's well, but other times it will miss
9 it.

10 And then avascular necrosis, and we can also do
11 it for loosening of any type of hardware.

12 This is a case of osteomyelitis. This is a
13 diabetic patient and you can see on the flow images
14 that, you know, where I think this patient in
15 particular had his toe amputated prior and, you
16 know, due to his diabetic condition. But he -- you
17 know, it wasn't healing after the surgery. And so,
18 with a continued ulcer like that, you worry about
19 infections start to go into the bone and that's what
20 this demonstrates because he has, like, an increased
21 uptake in that area on the flow. And then as well
22 as in the immediate and then you can confirm it on
23 the delayed images that it locates to his metatarsal
24 bone. So that basically confirms that it's
25 osteomyelitis. So they probably will either have to

1 do very long term antibiotics or amputate further
2 up.

3 This is another case of osteomyelitis, which
4 can happen in the spine.

5 This is an example of stress fractures. You
6 can get kind of the clinical case, long-distance
7 runners. They're having this pain in their shins.
8 And on x-ray, it shows you, like, 80 percent of the
9 stress fractures are missed. So he's complaining,
10 comes in and gets the regular x-ray and it doesn't
11 show anything. Then when you get the bone scan,
12 three phase, you can see that there's uptake on the
13 borders of the tibia. So this is a stress fracture.

14 JENNIFER PETERSON: Is that better than an MRI
15 to diagnose a stress fracture?

16 NICHOLAS PLAXTON: I believe so, because I
17 think the MRI is, like, it's a matter of a time
18 table of when it will pick it up. So it depends on
19 how bad it probably is, too. If it's, like, a
20 pretty significant stress fracture, it will probably
21 pick it up on MRI. But I don't know the numbers off
22 the top of my head.

23 This is a case of the, again, it had different
24 names. Reflex sympathetic dystrophy or the complex
25 regional pain syndrome. And this is the one that

1 like, you know people, you'll get patients that are,
2 like, completely frustrated because they go through
3 the system for several years with this, like,
4 chronic problem of pain and nothing can really be
5 found. And so eventually, one of the doctors,
6 again, that's why we're telling the primary care
7 doctors, they realize that, you know, the patient
8 has a history of some kind of trauma or something or
9 even surgery to an area. And then when you do our
10 imaging, it confirms that basically, they have this
11 kind of syndrome. And you can see on the flow,
12 there's increased uptake in this person's ankle.
13 And then on the same, on the venus or the blood flow
14 and then on the delayed imaging, which is a couple
15 hours later. It has this kind of periarticular
16 activity to it.

17 This patient, in particular, was a -- he was a
18 paratrooper that had multiple hard landings. One in
19 particular where his parachute didn't even open. He
20 was in the hospital for months. And so he healed
21 from all those. And, you know, according to all the
22 imaging, he was fine. But he's broke both these
23 ankles several times.

24 But he started having these crazy symptoms and
25 it literally is like you have swelling, it looks

1 like you just broke your foot. Like you know how
2 when you sprain your ankle and it swells up and it's
3 red. That's what they'll have. So all the imaging
4 comes back negative until you get this three phase
5 and it confirms that during the healing process
6 somewhere, the nervous system went haywire and
7 there's not a good -- unfortunately, there's not a
8 good way to fix this.

9 I can remember when I was in the military,
10 there was a guy, he had a pinkie that he had this
11 happen to. He kept, for several years, he kept
12 dealing with it. He finally told them, he said,
13 just cut it off and that's what they did. Because
14 he was like, he couldn't deal with the pain.
15 Because this is pretty significant, actually.

16 Paget's Disease is another one you get, which
17 you can usually pick up on CT. It has a classic
18 look to it. They usually get our imaging because
19 even though CT can pick it up, they don't know if
20 it's active or not and ours will be hot. This one
21 is kind of like, sometimes it's real blazing hot and
22 it's easy to see. You can see that it's really easy
23 to identify.

24 This is not like, like a cancer or anything,
25 but it can cause discomfort and can cause --

1 accelerate arthritis and things of that nature. You
2 can see he has multiple bones involved.

3 And this is a newer agent that we use. I
4 wouldn't say -- I guess it's not really new, but
5 this is actually developed for PET scanners, sodium
6 fluoride, F-18 sodium fluoride. They didn't have
7 PET scanners back then, so they couldn't image these
8 well. But now that we have PET scanners, the
9 tracers come back and it's much more detailed than a
10 regular bone scan we get with technetium. You can
11 see here, the skeleton lights up really well. You
12 can see all the detail because the CT fuses with it.

13 Xofigo is another thing to keep in mind that we
14 do, which is Radium 223. Alpha radiation. So this
15 has very little penetration, but on the, on the
16 human body, because it's alpha. But if you inject
17 it, it can go to the bone metastases and burn them.
18 It's very effective at decreasing the metastatic
19 burden for -- at least temporary. It's not a cure.
20 It is expensive, though. But it provides, it does
21 provide extended life and some pain relief.

22 So I think this is, I think this is our last
23 topic, if you guys aren't fully asleep yet. This is
24 brain imaging. And the one that's been around a
25 while is FDG brain is kind of like, again, the brain

1 almost exclusively burns glucose. And you can kind
2 of diagnose multiple different diseases from this
3 depending on what the pattern of the uptake is.

4 And so, different things that you can determine
5 is Alzheimer's disease, because there's a very
6 classic decrease in certain areas of the brain. And
7 there's other dementia disorders that you can
8 differentiate using the FDG. This one is a little
9 bit more -- you have to use the -- you have to be
10 used to reading this because you have to know which
11 locations go down. Obviously, neurologists are
12 familiar with the different areas. So FDG is kind
13 of like the first imaging you get to see where
14 things are down and then that kind of directs them
15 where they want to go to do further imaging.

16 This is kind of like a map showing that has
17 nice normal uptake in this patient.

18 And this is a patient that's abnormal. It's
19 kind of hard to see without the movement. But
20 anyhow, there's, like, decreased areas where the
21 arrows are pointing. And this is classic for an
22 Alzheimer's patient.

23 And you find other -- there's other things that
24 show up, like again, this is probably a PET patient
25 for, probably another cancer of some sort. We just

1 happened to see, just by -- you see this area of the
2 brain. It ends up being an arachnoid cyst. These
3 are just things that pop up. When you read a PET
4 scan, even if it's for lung cancer, you have to look
5 through everything.

6 This is another patient, again, probably found
7 incidentally on another work up of another cancer
8 that we were doing imaging for, but you can see
9 there's this pituitary tumor here. And it's
10 actually eroding -- this one is eroding the actual
11 skull base, which is not good. So they need to --
12 this is something they need to go after and work up.
13 You can see here on the MRI image, it's quite large.

14 These are brain metastases that can show up.
15 The brain metastases tend to have higher FDG uptake
16 than the background brain, but if you don't window
17 your FDG, you'll probably miss it. This is where
18 you have to increase the -- you have to scale --
19 change your scaling so that you can see the brain
20 mets. It's not used for screening for brain mets,
21 but you can pick them up.

22 MARK SEDDON: How important are you guys using
23 these? I mean are you --

24 NICHOLAS PLAXTON: The actual numbers?

25 MARK SEDDON: Right. Are you normalizing? Do

1 you have a normalization process to make sure that
2 -- because if you're doing tracking over time or,
3 you know, between different types of equipment
4 you're using --

5 NICHOLAS PLAXTON: So we still have, at least
6 at my place, we only have one PET camera right now,
7 so that's kind of fixed. Although we were getting a
8 second one put in.

9 But it depends on the cancer. For, like,
10 lymphomas, there's the -- you lay out SUVs and then
11 do a response to see if they've gone down or not.

12 MARK SEDDON: Okay. Yeah. I was curious. You
13 said it's not really applicable. If you have
14 multiples cameras, you want to have some type of
15 assurances that it's on camera A versus camera B.
16 That your SUV value is actually a meaningful number.

17 CHANTAL CORBETT: I was going to say all of our
18 clients that have multiple scanners, we use the ACR
19 panel standard. So if you're doing them at the same
20 time on a routine basis on those systems, you'll
21 know the differences.

22 MARK SEDDON: But that's just for one aspect of
23 it. But a lot of times, they are using a set type
24 of scan, acquisition. But there's a lot of other
25 things that go into standardizing how you prep a

1 patient, how you initiate the dose.

2 CHANTAL CORBETT: I mean, typically, the
3 protocol part of it is standard across the
4 department.

5 NICHOLAS PLAXTON: Yeah, we try to keep it
6 close. But you're right, there's a little bit --

7 MARK SEDDON: There's variation on --

8 NICHOLAS PLAXTON: Exactly -- even the patient
9 prep. Because the time from injection to when
10 they're scanned, what their blood sugar was that
11 day. So the idea with the SUV is to try to decrease
12 some of those factors. So it's supposed to be,
13 like, a unitless. But we don't use it as, like, a
14 very absolute number.

15 MARK SEDDON: That's why I was curious. How
16 important it falls for you guys.

17 NICHOLAS PLAXTON: Yeah. For the most part,
18 like, I would say we more -- we definitely report
19 them in our reports, but it's more of a, kind of a,
20 instead of quantitative, it's more of, like
21 assessment of the overall.

22 MARK SEDDON: Because I mean, like radio
23 oncologists have tracking over time for treatment
24 response. Might be more important.

25 CHANTAL CORBETT: I mean, like even what you

1 were saying, with one scanner, you have two
2 different techs, they can, you know, change the prep
3 up enough that it would be different. So it's not
4 really the SUV end of it, but more sort of prepping.

5 NICHOLAS PLAXTON: All right. So there's, you
6 know, some newer tracers that we use for the brain.
7 This one is called Amyvid, which basically, it
8 attaches to the little amyloid aggregates.
9 Basically the little things that maybe should be
10 called, like little trash that fills up in peoples'
11 heads when they get Alzheimer's. And the more they
12 have -- it's not guaranteed they have it, but the
13 more you have of these tangles, the higher chance of
14 Alzheimer's you have.

15 And so, basically, you know, that's the idea is
16 like, so like a normal brain up here, you can see
17 the difference between the white matter and the gray
18 matter. So there's, like, delineation between the
19 two. Meaning there's very little of those tangles
20 in the brain.

21 Whereas if you go down here, you can't tell the
22 difference between the two. So this person has a
23 very heavy burden of those tangles and so that this
24 patient is, you know, these down here are consistent
25 with Alzheimer's.

1 There's no really other way to image
2 Alzheimer's. So this is kind of -- and there's
3 different agents that you can use, but this is the
4 most -- FDA approved one. There's a couple other
5 ones, but this is the -- like I said, FDG patterns
6 of glucose can also kind of confirm Alzheimer's as
7 well.

8 You can see here's an abnormal one where it's
9 the white matter and gray matter. You can't tell
10 the difference between them.

11 And this is just comparing it to an FDG PET,
12 which is not easy to see. But there's decreased
13 activity in the parietal lobes. The occipital lobes
14 are where your vision is, and those are all
15 preserved in Alzheimer's. Their motor strip, which
16 is the middle. That's why people with Alzheimer's
17 have motor function and vision is not affected, but
18 their memory is, so --

19 GEORGE GILBRIDE: That's why you have all the
20 silver lungs and stuff like because they take off.

21 NICHOLAS PLAXTON: They keep on going. They
22 don't lose any motor function, but they do -- you
23 know, the various areas of memory are gone.

24 So this is just more patterns. This is another
25 one that came out. Probably about, I don't know,

1 ten, fifteen years ago.

2 This one is really big because it's DaTscan,
3 which attaches to the center, like, of your brain
4 that controls your movements. So people with
5 Parkinson's will have abnormal uptake of this
6 tracer. So basically, it can diagnose people with
7 Parkinson's disease. And then that will be able to
8 allow you to figure out is it truly Parkinson's?
9 Because before, it was a clinical diagnosis and you
10 would just try medications and see if something
11 works. But now this can confirm that they have
12 Parkinson's disease or not. And so that way, you
13 can, you know, apply the right medications. Because
14 just natural tremors can be similar to Parkinson's
15 and whatnot.

16 So this was actually a really big breakthrough
17 because otherwise, you would have no idea that the
18 patient, other than clinical symptoms.

19 And this is kind of how it attaches. This is
20 the nuclei in the brain that lights up. This is the
21 normal patient, the cross section of the brain. So
22 it looks like commas. You can see in this patient,
23 it's significantly down and the background is
24 increased. So this is a patient with Parkinson's.

25 And if a patient has drug-induced Parkinson's

1 syndrome, it actually will still have a normal
2 uptake. So that will confirm that the patient,
3 because they know they're on psychotic drugs that
4 cause Parkinson's and if you do the imaging, it will
5 confirm that, yes, it is the drugs that's doing it
6 and they can stop taking those drugs.

7 Again, healthy versus abnormal.

8 And then this is, you've got more -- cross
9 sectional through the brain. And then you can
10 actually do quantitative analysis here. You can,
11 you know, based on their age, it will compare it to
12 normal data files and then give you a standard
13 deviation from normal. It's like an easy cheat
14 sheet.

15 You have to be careful, though, because there's
16 always artifacts that will get in these. That's
17 probably what this is. I'll talk about a couple of
18 these. Abnormal DaTscan. This is obviously very
19 severe. This patient has, it's no doubt that it's
20 Parkinson's.

21 We usually have them drink like a, like a Lugol
22 solution or potassium iodine to, theoretically,
23 protect their thyroid gland because we're using, the
24 agent uses an iodine agent. So you want to try to
25 protect it. If they don't, we still will treat

1 without giving them the protection or image without
2 the protection.

3 There's a lot of drugs that interfere with
4 this, so we have to make -- we have to really kind
5 of watch what they're on and stop certain
6 medications over a period of time so it doesn't
7 interfere with the thing.

8 Lewy Body Disease is kind of a -- it's a cross
9 between Alzheimer's and Parkinson's. So these
10 patients have both memory problems and movement
11 problems. And it tends to be more debilitating.
12 And so anyhow, they'll -- and these people have --
13 they do -- they have hallucinations because the big
14 thing on this is the occipital lobe is also
15 affected. So they have visual problems and memory
16 problems. So now they start hallucinating, which,
17 this is a very debilitating disease.

18 GEORGE GILBRIDE: Didn't Robin Williams have
19 Lewy Disease?

20 NICHOLAS PLAXTON: He may have. Yeah. I don't
21 know.

22 Anyhow, this -- they tend to have abnormal
23 DaTscans and, you know, FDG scans. This is a
24 patient that had Lewy Body Dementia. You can see
25 here the occipital lobe is down. You usually only

1 see that in Lewy Body Disease. Usually the visual
2 cortex stays intact.

3 Oh, thyroid. Going over my time now. Let's
4 see here. Try to go through this pretty quick.
5 This has been around for a long time. This is what
6 nuclear medicine started back in probably in the
7 1960s I think, or 1950s. And so, you know,
8 basically imaging the thyroid because you can inject
9 radioactive iodine. They use I123 now. They used
10 to use I131, but I131 has beta. So we use that
11 exclusively for treatment and I123 is gamma. So we
12 use that for imaging. It has better characteristics
13 for imaging. And you usually take an uptake after
14 24 hours after injection. And there's a normal
15 range. So you can see if they're hypo functioning
16 or hyperfunctioning.

17 And so anyhow, this is what a normal scan looks
18 like. Nothing else takes up the iodine, so it's,
19 you know, you see this thyroid gland floating in
20 space.

21 And this is a Grave's Disease patient where it
22 has increased uptake and the gland is enlarged and
23 you can't read the percentages here, but it's over
24 30 percent. So this one is probably, like, 60
25 percent. These people have -- eventually, they have

1 hyperthyroidism until it burns itself out. Usually,
2 you don't wait for that. You just treat it. Put it
3 to zero and give them Synthroid for the rest of
4 their life because there's all kinds of
5 complications with it.

6 This is a toxic autonomous nodule. So you have
7 a nodule on your thyroid. This one is on the left
8 side in your ultrasound. When you do the imaging,
9 the rest of the gland is suppressed because this one
10 gland is just sending out hormones without any
11 regulation.

12 And then when we also do our imaging, if the
13 patient has multiple nodules, if it's a cold nodule,
14 it has a ten percent chance of being a thyroid
15 malignancy. So you usually have to do a biopsy to
16 figure that out.

17 This is a patient where the patient has
18 thyroiditis, so they have hyperfunctioning -- it
19 looks like a hyperfunctioning thyroid, but when you
20 do the imaging, it has very low uptake. This is
21 usually transient. That means the patient has some
22 kind of infection and it's dumping its thyroid
23 hormones that's stored up, which is kind of like the
24 metabolism for your body. So that resolves on its
25 own.

1 I131 we use for treatment of hyperactive
2 thyroids as well as for cancer. You usually see
3 different levels of it all the way up to, like, 250
4 millicuries of I131.

5 Patibulary. Pick up some speed here. This is
6 basically looking for when people have acute
7 colicystitis or chronic -- let's see the images.
8 Here, the tracer is uptake into the liver and then
9 goes into the gallbladder if it's functioning
10 correctly. So this is a normal scan. And once it
11 fills up the gallbladder, you can give them a fatty
12 meal. And then you can measure how fast it dumps
13 the gallbladder into the small bowel. This allows
14 you to dissolve fats. And, you know, we probably
15 all know someone that has had gallbladder taken out
16 because it becomes dysfunctional.

17 Chronic is like where it takes up normally, but
18 then it doesn't squeeze correctly. So you give it a
19 fatty meal, it doesn't release it. This will cause
20 pain just as -- and problems with patients. So, you
21 know, they end up getting it taken out.

22 Here's acute colicystitis. It never fills the
23 gallbladder. It just stays, you know, without
24 activity going in. And then that confirms, like,
25 usually they figure it out on ultrasound or

1 sometimes, you know, ultrasounds and CT, they can,
2 you know, they actually -- I think it is actually
3 pretty high. I think they can, they can usually
4 kind of call acute colicystitis, I want to say only
5 60 percent of the time. So this kind of confirms it
6 if that's the suspicion.

7 This is a high-grade obstruction. This is from
8 a patient where they took out the gallbladder. But
9 they actually ligated the common bile duct. This is
10 a big problem because now they have to do a big
11 surgery to get function back.

12 This is a pancreatic mass on FDG that was --
13 this can cause a high grade obstruction as well.
14 Putting mass effect on the bile duct.

15 This is the one. Maybe it's backward. This is
16 the guy that had post op surgery. This is the one
17 they tied off. Same thing. High-grade obstruction.
18 That very rarely happens, actually, by the way.

19 This is a biliary leak. This happens more
20 often than, you know, this is a common problem. So
21 they didn't quite tie everything off and now you
22 have leakage of bile into the -- where the
23 gallbladder used to be. And they can go in and fix
24 this pretty easily, but they got to recognize that
25 it's leaking.

1 And this is in newborns, if they -- if you
2 don't have a biliary tree altogether, for the bile
3 to go down, it basically confirms that, it gets
4 taken up by the liver in this newborn, but it never
5 goes anywhere. So this baby doesn't have a biliary
6 tree; hence, they need surgery.

7 All right. That's kind of it. So I guess that
8 was probably more information to cover than I
9 thought. But, you know, the main thing is, you
10 know, is like, a lot of -- even, like, primary care
11 people are, like, scared of radiation and, like,
12 everything we do in nuclear medicine, so the idea is
13 that, hey, what we do in nuclear medicine is safe
14 and it's all regulated. So it's like a, just like
15 all, everything we always do, you know, on top of
16 the radiation.

17 So -- and like, our imaging is, like, more of a
18 functional imaging versus the radiology where it's
19 more of a, an anatomical. That's changing more with
20 the different MRIs and things. They can do more
21 functional imaging now. But that's kind of like --
22 ours is mainly to deal with functioning.

23 And there's a lot more, you know, this is like
24 a, like I said, kind of the bread and butter for
25 primary care doctors, but there's a lot of new

1 cutting edge radio tracers coming out and treatments
2 that are available that is, like, nuclear medicine
3 is kind of really exploding into, like, new ways of
4 treatments and imaging.

5 So that's it. Anybody have any questions? I
6 know it's a lot of information about it.

7 (Applause)

8 ADAM WEAVER: What does that slide represent?

9 NICHOLAS PLAXTON: That's just regular Gallium.

10 ADAM WEAVER: I figured it was one of the
11 metals.

12 NICHOLAS PLAXTON: Yeah, that's Gallium. Its
13 natural state. This is what happens when you put it
14 in your hand. It melts.

15 MARK SEDDON: I have a question. So as you're
16 seeing more of the newer radiological particles
17 coming out or newer imaging applications --

18 NICHOLAS PLAXTON: Yeah.

19 MARK SEDDON: -- how often do you have to --
20 because the physicians sometimes aren't aware of
21 what options are available. Do you have the orders
22 changed where they go back to the radiologist or
23 they come in and say actually, you know, a bone
24 scan, a PET bone scan would be better for you.

25 NICHOLAS PLAXTON: Yeah. So I mean, so we're

1 constantly involved in, like, our tumor boards and
2 chest conferences. So usually when we get
3 something, like, sometimes, like, we're announcing
4 to them that there's, like, something available. Or
5 it's vice versa. Somebody has already like, like
6 the oncologists are already, like in particular, I
7 think there's one of our radiographers, he's
8 involved in a prostate imaging research that they're
9 doing. And he specifically wanted the Gallium-68
10 PSMA. So he was, like, calling me all the time.
11 Hey, yeah, you got that on board? I was like, well,
12 we're still going through the process of getting the
13 VA to get it approved. Even though it has already
14 been FDA approved, we have to get it on board in
15 house.

16 But, yeah, we kind of like keep up and, like,
17 we do call them every now and then if we feel we
18 need to change it to a different radio tracer or
19 isotope or something. And then just, you know, they
20 eventually kind of pick it up and then, you know,
21 start doing the new tracer.

22 MARK SEDDON: But they order something and your
23 standard is changed, would you change it without --
24 would you consult them before changing it or you
25 would change it based upon the --

1 NICHOLAS PLAXTON: Yeah. I wouldn't change --
2 if it's a, if it's, like, for instance, like if it
3 was the Axumin, which is for prostate cancer, and
4 now we have the PSMA available. I still wouldn't
5 just change it because I think it's like, I know
6 they're like, hey, this is better. I would still
7 call them and say, hey, you ordered the Axumin, but
8 we do have the PSMA, because they may not be aware
9 of it. Or they specifically want the Axumin because
10 they will be like, well, he had multiple images with
11 Axumin. I don't want to change it now. It would be
12 different sensitivity and specificity, so they want
13 to stay with the same thing with that patient.

14 So, yeah, we try to kind of contact them as
15 much as we can to kind of, you know, have the
16 dialogue open so that we're not just changing things
17 on our own. Then they get back something that they
18 didn't expect.

19 MARK SEDDON: Okay.

20 NICHOLAS PLAXTON: Usually.

21 CHANTAL CORBETT: I would say that would only
22 be a hospital system that would ever happen.
23 Outpatient would never ever do that.

24 NICHOLAS PLAXTON: Try to contact someone?

25 CHANTAL CORBETT: They're not going to change

1 it without calling them. They'll do what's ordered.
2 If they come back with another order, they'll do
3 that, too.

4 NICHOLAS PLAXTON: We do have a little bit of
5 that. I know --

6 CHANTAL CORBETT: Hospitals, it easier because
7 more interactions between doctors and the staff and
8 counsel.

9 MARK SEDDON: As they're transitioning to new
10 tracers, it's like there is an education lag.

11 NICHOLAS PLAXTON: Yeah. Yeah. There is. Or
12 somebody is used to a certain tracer, we have to
13 tell them, hey, there's this better one now. But I
14 do like, on our day-to-day stuff, I know we have the
15 main hospital and then there's all these, like,
16 satellite clinics that we read that are ordering and
17 then we're doing stuff for them. And like, whenever
18 you try to call someone that's in one of these out
19 clinics, they're either part time, they don't have
20 pagers and they're never at the number that's
21 listed, so you're like, it's like sending a smoke
22 signal. At that point you just do, what you think
23 is best, but --

24 MARK SEDDON: Technically, it's under your --
25 you're the authorized user for the procedure, so

1 it's what the radiologist feels is the appropriate.

2 CHANTAL CORBETT: It's hard to convince them,
3 though, they're actually the final say on some of
4 the things. Because I think it's the liability and
5 the, everything else in today's society that they
6 don't want to change things.

7 MARK SEDDON: Very good.

8 RANDY SCHENKMAN: Okay. I guess we should move
9 on to other business. Anyone have other business?

10 (No Response)

11 RANDY SCHENKMAN: Okay. Next meeting.

12 BRENDA ANDREWS: I forgot to give the
13 calendars.

14 JAMES FUTCH: Thursdays in May. May 4th
15 through May 25th. CRCPD meeting, usually earlier.

16 CLARK ELDREDGE: Mid May? Mid May.

17 JAMES FUTCH: So probably not the 11th then?

18 CLARK ELDREDGE: I can look it up. Cut me off
19 on my phone.

20 BRENDA ANDREWS: So you said CRCPD is in May?

21 JAMES FUTCH: Any other competing society
22 meetings?

23 KATHLEEN DROTAR: Mine would be on a Friday
24 starting anyway.

25 BRENDA ANDREWS: So the 11th?

1 JAMES FUTCH: Clark is looking up CRCPD.

2 CLARK ELDREDGE: It will be, starts Monday, May
3 8th. Houston, Texas.

4 JAMES FUTCH: Not the 11th.

5 CLARK ELDREDGE: So it will be that week.

6 JAMES FUTCH: Yeah. So the 4th, 18th or 25th.

7 CHANTAL CORBETT: I want to say the 14th, I
8 have an -- FNMT is the 14th. I'm trying to verify
9 the dates.

10 JAMES FUTCH: Okay. Would you still be --
11 would the 18th be a conflict for that? That's
12 usually the weekend --

13 CHANTAL CORBETT: Thursday through Sunday.

14 JAMES FUTCH: So that's the -- is it the 11th
15 through the 14th?

16 CHANTAL CORBETT: That's what I was trying to
17 figure out.

18 JAMES FUTCH: Okay. I think the 4th, 18th or
19 the 25th.

20 CLARK ELDREDGE: For CRCPD, it would be, I
21 mean, the first, second, third type thing. The
22 first three days of May because whoever goes,
23 generally may have to be traveling on that Thursday
24 or Friday to get out there for pre-meetings.

25 JAMES FUTCH: So you prefer the 18th?

1 CLARK ELDREDGE: Yeah, the 18th would be better
2 for CRCPD.

3 JAMES FUTCH: Anybody got any issues with the
4 18th?

5 BRENDA ANDREWS: It's a Thursday?

6 JAMES FUTCH: Yeah, it's a Thursday. We can
7 always start looking at other days.

8 CHANTAL CORBETT: Or go to Tuesday.

9 JAMES FUTCH: Does anybody have a real problem
10 with Thursday? Historically, this has been one of
11 the better days. Except for maybe Becky. I'm not
12 sure.

13 BRENDA ANDREWS: So the 18th of May?

14 KATHLEEN DROTAR: Sounds good.

15 RANDY SCHENKMAN: Yeah. That's a Thursday.

16 JAMES FUTCH: Anybody else, speak up now,
17 please.

18 RANDY SCHENKMAN: Okay.

19 BRENDA ANDREWS: The only other thing is if
20 anybody -- you all turn your travel papers in to me.
21 I think I'm missing a few. They need to be signed
22 and turned in to me right now. Right now.

23 KATHLEEN DROTAR: Don't mess with Brenda.

24 JAMES FUTCH: Time for a picture.

25 RANDY SCHENKMAN: That's right. We need to do

1 a picture.

2 THE COURT REPORTER: Are we adjourned?

3 RANDY SCHENKMAN: The meeting's adjourned.

4 Sorry about that.

5 (Proceedings concluded at 3:40 p.m.)

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1 CERTIFICATE OF REPORTER

2 STATE OF FLORIDA:

3 COUNTY OF ORANGE:

4

5 I, RITA G. MEYER, RDR, CRR, CRC, do hereby certify
6 that I was authorized to and did stenographically report
7 the foregoing proceedings and that the foregoing
8 transcript is a true and correct record of my
9 stenographic notes.

10 I FURTHER CERTIFY that I am not a relative,
11 employee, attorney or counsel of any of the parties, nor
12 am I a relative or employee of any of the parties,
13 attorneys or counsel connected with the action, nor am I
14 financially interested in the outcome of the action.

15

DATED this 21st day of October, 2022.

16

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RITA G. MEYER, RDR, CRR, CRC

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	22/1 22/9	9/3 14/19	82/13	30/16 30/21	150 [1] 17/3
ADAM	22/11 22/25	15/15 15/21	KATHLEEN	31/9 37/8	16 [1] 16/24
WEAVER:	24/12 25/10	16/25 17/11	DROTAR:	40/11 40/19	160 [1] 34/20
[39] 5/5 5/7	25/22 29/8	17/17 18/2	[22] 24/8	51/7 51/14	177 [3] 71/11
5/12 5/22 7/2	29/12 29/22	18/22 19/8	24/22 30/23	55/15 104/7	71/17 74/12
7/6 7/9 7/13	30/17	19/18 19/22	37/9 37/19	104/10 106/14	18 [5] 59/8
7/25 9/8 9/13	CLARK	20/21 20/25	38/25 39/10	106/17 106/24	59/9 69/6
10/9 10/15	ELDREDGE:	21/9 21/11	39/16 39/24	107/2	71/14 85/6
11/4 11/21	[65] 4/1 4/13	22/2 22/10	40/1 42/2 44/2	THE COURT	184 [2] 34/19
12/4 12/13	5/6 5/8 5/13	22/13 22/19	44/6 44/10	REPORTER:	34/20
12/17 13/2	5/23 7/4 7/7	23/1 23/5 23/9	45/2 46/15	[1] 107/1	18th [7]
13/7 13/9	7/10 7/14 8/1	23/18 23/22	46/21 46/24	\$	105/6 105/11
13/13 13/23	8/15 9/5 9/10	24/10 24/13	47/10 104/22	\$200,000 [1]	105/18 105/25
14/1 14/8 16/6	9/15 10/12	24/16 24/19	106/13 106/22	17/3	106/1 106/4
17/15 18/4	10/16 11/7	24/24 25/2	MARK	\$50,000 [1]	106/13
18/8 20/24	11/23 12/8	25/11 25/17	SEDDON:	41/16	19 [1] 16/22
24/9 24/18	12/14 12/19	25/23 25/25	[21] 32/1	'	1950s [1]
27/5 36/7 37/2	13/6 13/8	26/7 26/11	35/24 36/9	'	95/7
37/6 54/23	13/11 13/14	26/17 27/6	36/16 36/24	'21 [1] 47/23	1960s [1]
100/7 100/9	13/24 14/3	28/11 28/15	37/4 37/7	'22 [1] 47/23	95/7
BRENDA	14/10 14/18	29/9 29/15	87/21 87/24	'87 [1] 19/23	1980 [1]
ANDREWS:	14/22 14/25	30/24 31/8	88/11 88/21	'88 [3] 19/21	49/17
[15] 18/14	15/17 15/22	31/10 32/2	89/6 89/14	19/22 24/16	1:30 [2] 18/6
20/20 22/18	16/7 16/9 17/9	33/19 33/21	89/21 100/14	'89 [1] 24/16	18/8
22/24 24/15	17/20 19/17	35/19 37/13	100/18 101/21	1	1:40 [1]
25/21 25/24	19/21 21/8	37/20 39/3	102/18 103/8		18/19
26/10 29/10	21/10 23/4	39/18 39/21	103/23 104/6	10 [1] 7/4	2
104/11 104/19	23/8 23/15	39/25 40/2	NICHOLAS	100 [2] 7/3	20 [2] 55/4
104/24 106/4	23/19 25/1	40/4 40/10	PLAXTON:	7/6	80/2
106/12 106/18	25/16 26/3	40/14 40/17	[34] 4/12	1000 [1] 21/2	2008 [1]
CHANTAL	26/13 28/9	40/20 40/25	14/14 14/20	11th [4]	16/23
CORBETT:	33/9 33/20	41/11 41/20	14/24 16/8	104/17 104/25	2011 [1] 20/6
[36] 18/11	34/16 35/21	42/4 42/20	40/16 40/23	105/4 105/14	2012 [2]
26/2 26/5	39/22 40/3	44/4 44/9	51/9 51/15	12 [3] 25/23	20/11 20/11
36/11 36/22	40/8 40/24	44/15 44/21	52/18 54/1	35/13 38/22	2022 [2] 1/16
39/4 39/15	104/15 104/17	44/25 45/6	54/19 54/25	120 [1] 16/5	108/15
39/20 41/10	105/1 105/4	45/14 45/17	55/17 55/19	123 [1] 53/7	21st [1]
41/18 44/11	105/19 105/25	45/22 46/16	73/23 82/15	125 [1] 16/15	108/15
44/16 44/23	GEORGE	47/6 47/11	87/23 88/4	12:10 [1]	22 [1] 1/16
45/5 45/12	GILBRIDE:	50/20 50/24	89/4 89/7	1/17	223 [1] 85/14
45/15 45/19	[11] 18/9	51/2 51/11	89/16 90/4	12:29 [1]	24 [2] 38/23
46/19 46/22	18/12 29/14	53/24 54/14	91/20 94/19	18/18	95/14
47/2 50/15	29/20 42/19	55/18 104/13	100/8 100/11	12:30 [2]	250 [1] 97/3
50/22 51/1	44/19 52/17	104/16 104/20	100/17 100/24	18/3 18/5	25th [3]
53/25 54/18	54/16 54/21	104/25 105/3	101/25 102/19	140 [2] 38/1	104/15 105/6
88/16 89/1	91/18 94/17	105/5 105/9	102/23 103/3	58/15	105/19
89/24 102/20	GIOVANNA	105/13 105/17	103/10	140K [1] 16/5	27th [2] 4/15
102/24 103/5	MANNING:	105/24 106/2	RANDY	14th [4] 35/4	5/15
104/1 105/6	[2] 28/14 31/7	106/5 106/8	SCHENKMAN	105/7 105/8	2:23 [1]
105/12 105/15	JAMES	106/15 106/23	: [20] 14/12	105/15	51/13
106/7	FUTCH:	JENNIFER	17/25 18/3	15 [3] 25/25	2:30 [1]
CINDY	[102] 8/14	PETERSON:	18/6 18/20	31/12 55/10	
BECKER:		[2] 73/21			
[12] 19/7					

2 2:30... [1] 51/14	9 90 [1] 71/18 99 [2] 59/18 64/10 99M [1] 58/14	89/14 abuse [1] 47/10 accelerate [1] 85/1 accelerator [1] 23/24 acceptance [1] 39/13 accepted [2] 6/24 38/20 access [1] 46/2 according [4] 6/21 34/7 42/1 83/21 accounting [1] 28/4 accreditation [1] 36/11 accumulating [1] 36/2 accurate [1] 64/13 acid [2] 72/14 72/22 acids [1] 63/25 acquisition [1] 88/24 ACR [2] 34/25 88/18 acronym [1] 37/18 across [6] 18/15 36/2 49/9 63/6 63/21 89/3 act [1] 45/3 acted [1] 43/5 action [6] 48/15 48/17 48/19 48/20 108/13 108/14 active [2] 41/24 84/20 activity [7] 70/20 71/1 71/2 79/6 83/16 91/13 97/24	actual [3] 72/3 87/10 87/24 actually [56] 7/8 7/13 8/20 9/14 10/2 11/15 11/15 12/10 13/17 14/7 17/6 17/10 17/18 20/22 21/1 28/13 28/25 31/15 33/17 41/6 45/4 45/4 47/23 50/18 53/9 53/10 53/12 53/16 59/1 60/4 61/17 62/7 63/1 65/1 66/10 67/11 71/18 71/25 72/22 73/24 74/4 74/22 77/5 84/15 85/5 87/10 88/16 92/16 93/1 93/10 98/2 98/2 98/9 98/18 100/23 104/3 acute [3] 97/6 97/22 98/4 Adam [1] 2/3 add [4] 17/22 42/1 49/10 49/12 additional [4] 6/1 6/7 26/22 49/9 addressing [1] 8/5 adjourned [2] 107/2 107/3 administrative [1] 27/20 administrator [3] 2/11 2/11 20/5 adopt [1] 11/19	adopted [2] 6/25 7/16 advanced [1] 72/8 advantage [3] 38/21 39/24 56/2 ADVISORY [4] 1/1 2/1 28/25 29/4 affect [1] 77/23 affected [2] 91/17 94/15 aforemention ed [1] 25/7 afraid [1] 52/21 after [14] 5/15 6/7 19/6 23/25 23/25 27/19 40/18 52/13 64/6 80/18 81/17 87/12 95/13 95/14 afterwards [2] 29/12 67/9 again [25] 6/16 8/9 15/11 15/19 15/20 26/9 27/7 51/17 56/25 64/24 66/24 67/20 69/1 70/18 75/2 75/15 76/4 76/6 79/22 82/23 83/6 85/25 86/24 87/6 93/7 against [8] 4/11 9/9 43/5 43/6 45/5 48/17 53/13 53/13 age [2] 36/16 93/11 agency [2] 15/3 15/25 AGENDA [1] 3/1	agent [8] 59/8 63/5 64/17 73/1 77/19 85/3 93/24 93/24 agents [12] 56/13 56/25 63/4 64/19 67/24 69/3 71/9 74/9 75/14 77/7 79/2 91/3 aggregates [1] 90/8 aggressive [3] 69/15 69/20 72/20 ago [6] 23/25 32/21 35/13 46/5 72/17 92/1 agree [1] 42/15 ahead [3] 36/19 40/24 67/10 Airport [1] 1/11 Alabama [1] 21/15 Albert [1] 2/7 all [65] 8/5 10/17 13/12 14/12 15/4 15/5 16/1 16/22 17/9 17/13 18/11 18/14 19/3 19/12 21/13 24/5 24/6 29/5 29/19 29/23 30/1 30/7 30/10 30/14 30/15 30/19 35/3 35/17 35/22 35/23 35/23 36/25 38/14 40/11 51/3 51/23 52/7 52/9 52/17 53/2 54/8 54/11	
3 30 [2] 48/11 95/24 30,175 [1] 41/23 33607 [1] 1/12 34 [1] 19/17 35 [1] 19/6 3:40 [2] 1/17 107/5	A a little [1] 89/6 AAPM [1] 34/25 abdomen [2] 76/2 76/3 abdominal [1] 54/18 ability [2] 43/2 43/8 able [11] 15/13 35/7 44/18 52/6 62/12 62/21 71/6 72/9 74/5 81/2 92/7 abnormal [6] 86/18 91/8 92/5 93/7 93/18 94/22 abnormally [1] 73/18 about [33] 7/21 7/22 12/22 14/16 18/15 20/13 23/20 26/1 30/4 31/13 31/17 31/21 31/23 32/11 37/12 48/14 48/21 48/23 55/4 56/24 57/22 59/12 61/18 70/6 72/14 72/15 72/17 74/10 81/18 91/25 93/17 100/6 107/4 above [3] 61/21 64/16 64/17 absolute [1]	4 40 [2] 54/12 54/14 404.22 [1] 4/16 45 [1] 41/25 4th [3] 104/14 105/6 105/18	5 50 [6] 47/20 47/23 48/5 61/21 64/16 64/17 500 [1] 42/9 56 [1] 48/6 57 [1] 13/8	6 60 [3] 48/5 95/24 98/5 65 [1] 48/7 68 [4] 71/12 71/14 73/8 101/9	7 70 [1] 47/20 750 [1] 42/8	8 80 [1] 82/8 80s [1] 23/1 82 [1] 58/18 8th [1] 105/3

A	always [11] 19/15 44/1 48/8 52/10 54/13 54/24 70/8 70/21 93/16 99/15 106/7	ancient [1] 25/4	91/22 96/10 100/5 104/21 106/3 108/11 108/12	100/7	52/21 55/12 56/2 56/5 56/7 56/22 56/23 57/19 58/13 60/16 61/20 62/8 63/4 63/22 65/16 66/1 67/1 68/16 69/3 69/5 70/14 70/19 71/4 71/6 71/7 71/18 73/10 73/12 73/17 74/4 74/15 74/19 75/13 76/10 77/22 79/3 80/7 82/9 83/1 86/11 86/14 86/21 87/3 87/14 87/22 87/23 87/25 88/23 90/24 91/14 91/14 91/23 99/11 100/2 100/21 101/6 103/16 107/2
all... [23] 59/15 61/9 61/10 66/15 70/25 79/25 83/21 83/21 84/3 85/12 88/17 90/5 91/14 91/19 96/4 97/3 97/15 99/7 99/14 99/15 101/10 103/15 106/20	Alzheimer's [10] 86/5 86/22 90/11 90/14 90/25 91/2 91/6 91/15 91/16 94/9	ankle [2] 83/12 84/2	anybody [8] 18/16 40/12 52/10 100/5 106/3 106/9 106/16 106/20	applicable [1] 88/13	52/21 55/12 56/2 56/5 56/7 56/22 56/23 57/19 58/13 60/16 61/20 62/8 63/4 63/22 65/16 66/1 67/1 68/16 69/3 69/5 70/14 70/19 71/4 71/6 71/7 71/18 73/10 73/12 73/17 74/4 74/15 74/19 75/13 76/10 77/22 79/3 80/7 82/9 83/1 86/11 86/14 86/21 87/3 87/14 87/22 87/23 87/25 88/23 90/24 91/14 91/14 91/23 99/11 100/2 100/21 101/6 103/16 107/2
allergy [1] 76/24	am [3] 108/10 108/12 108/13	annual [2] 6/24 55/4	anyhow [13] 55/24 63/9 63/12 64/4 68/4 68/8 70/11 71/4 74/15 86/20 94/12 94/22 95/17	application [2] 5/17 6/1	52/21 55/12 56/2 56/5 56/7 56/22 56/23 57/19 58/13 60/16 61/20 62/8 63/4 63/22 65/16 66/1 67/1 68/16 69/3 69/5 70/14 70/19 71/4 71/6 71/7 71/18 73/10 73/12 73/17 74/4 74/15 74/19 75/13 76/10 77/22 79/3 80/7 82/9 83/1 86/11 86/14 86/21 87/3 87/14 87/22 87/23 87/25 88/23 90/24 91/14 91/14 91/23 99/11 100/2 100/21 101/6 103/16 107/2
allow [1] 92/8	amazing [3] 30/7 73/4 74/9	annually [1] 38/9	anymore [2] 54/23 76/1	applications [6] 5/16 14/16 42/8 42/13 46/25 100/17	52/21 55/12 56/2 56/5 56/7 56/22 56/23 57/19 58/13 60/16 61/20 62/8 63/4 63/22 65/16 66/1 67/1 68/16 69/3 69/5 70/14 70/19 71/4 71/6 71/7 71/18 73/10 73/12 73/17 74/4 74/15 74/19 75/13 76/10 77/22 79/3 80/7 82/9 83/1 86/11 86/14 86/21 87/3 87/14 87/22 87/23 87/25 88/23 90/24 91/14 91/14 91/23 99/11 100/2 100/21 101/6 103/16 107/2
allows [7] 34/5 43/24 56/10 59/11 61/3 61/17 97/13	amber [1] 26/13	another [25] 11/21 16/20 19/10 24/20 25/9 28/3 28/8 34/17 39/10 42/12 42/12 43/5 48/16 48/17 58/7 80/23 82/3 84/16 85/13 86/25 87/6 87/7 87/7 91/24 103/2	Anyone [2] 14/13 104/9	apply [1] 5/18 5/19 42/17	52/21 55/12 56/2 56/5 56/7 56/22 56/23 57/19 58/13 60/16 61/20 62/8 63/4 63/22 65/16 66/1 67/1 68/16 69/3 69/5 70/14 70/19 71/4 71/6 71/7 71/18 73/10 73/12 73/17 74/4 74/15 74/19 75/13 76/10 77/22 79/3 80/7 82/9 83/1 86/11 86/14 86/21 87/3 87/14 87/22 87/23 87/25 88/23 90/24 91/14 91/14 91/23 99/11 100/2 100/21 101/6 103/16 107/2
almost [7] 21/15 22/22 31/2 36/6 41/7 70/21 86/1	ammonium [1] 58/24	ANSI [5] 7/6 7/7 7/8 7/16 9/10	anything [14] 4/9 12/25 13/1 14/13 15/14 24/3 30/3 34/12 34/13 35/15 37/9 40/13 82/11 84/24	approved [10] 38/13 38/17 39/2 39/12 40/8 72/16 72/18 91/4 101/13 101/14	52/21 55/12 56/2 56/5 56/7 56/22 56/23 57/19 58/13 60/16 61/20 62/8 63/4 63/22 65/16 66/1 67/1 68/16 69/3 69/5 70/14 70/19 71/4 71/6 71/7 71/18 73/10 73/12 73/17 74/4 74/15 74/19 75/13 76/10 77/22 79/3 80/7 82/9 83/1 86/11 86/14 86/21 87/3 87/14 87/22 87/23 87/25 88/23 90/24 91/14 91/14 91/23 99/11 100/2 100/21 101/6 103/16 107/2
along [2] 45/16 57/20	amongst [1] 34/12	answer [2] 40/4 47/6	anyway [8] 10/13 10/18 11/12 21/14 25/19 35/2 47/17 104/24	approve [1] 39/9	52/21 55/12 56/2 56/5 56/7 56/22 56/23 57/19 58/13 60/16 61/20 62/8 63/4 63/22 65/16 66/1 67/1 68/16 69/3 69/5 70/14 70/19 71/4 71/6 71/7 71/18 73/10 73/12 73/17 74/4 74/15 74/19 75/13 76/10 77/22 79/3 80/7 82/9 83/1 86/11 86/14 86/21 87/3 87/14 87/22 87/23 87/25 88/23 90/24 91/14 91/14 91/23 99/11 100/2 100/21 101/6 103/16 107/2
alpha [2] 85/14 85/16	amount [2] 54/13 55/13	anti [1] 71/24	anywhere [4] 35/19 38/25 40/6 99/5	approved [10] 38/13 38/17 39/2 39/12 40/8 72/16 72/18 91/4 101/13 101/14	52/21 55/12 56/2 56/5 56/7 56/22 56/23 57/19 58/13 60/16 61/20 62/8 63/4 63/22 65/16 66/1 67/1 68/16 69/3 69/5 70/14 70/19 71/4 71/6 71/7 71/18 73/10 73/12 73/17 74/4 74/15 74/19 75/13 76/10 77/22 79/3 80/7 82/9 83/1 86/11 86/14 86/21 87/3 87/14 87/22 87/23 87/25 88/23 90/24 91/14 91/14 91/23 99/11 100/2 100/21 101/6 103/16 107/2
already [7] 4/1 7/16 29/25 44/14 101/5 101/6 101/13	amputate [1] 82/1	antibiotics [1] 82/1	Appalachians [1] 53/23	approximatel y [3] 42/7 42/9 48/4	52/21 55/12 56/2 56/5 56/7 56/22 56/23 57/19 58/13 60/16 61/20 62/8 63/4 63/22 65/16 66/1 67/1 68/16 69/3 69/5 70/14 70/19 71/4 71/6 71/7 71/18 73/10 73/12 73/17 74/4 74/15 74/19 75/13 76/10 77/22 79/3 80/7 82/9 83/1 86/11 86/14 86/21 87/3 87/14 87/22 87/23 87/25 88/23 90/24 91/14 91/14 91/23 99/11 100/2 100/21 101/6 103/16 107/2
also [17] 7/6 22/6 30/13 32/3 34/15 43/7 43/21 43/22 46/12 47/9 53/8 72/5 75/8 81/10 91/6 94/14 96/12	amputated [1] 81/15	antigen [1] 73/2	apical [2] 60/21 60/23	arachnoid [1] 87/2	52/21 55/12 56/2 56/5 56/7 56/22 56/23 57/19 58/13 60/16 61/20 62/8 63/4 63/22 65/16 66/1 67/1 68/16 69/3 69/5 70/14 70/19 71/4 71/6 71/7 71/18 73/10 73/12 73/17 74/4 74/15 74/19 75/13 76/10 77/22 79/3 80/7 82/9 83/1 86/11 86/14 86/21 87/3 87/14 87/22 87/23 87/25 88/23 90/24 91/14 91/14 91/23 99/11 100/2 100/21 101/6 103/16 107/2
alterego [1] 22/7	amyloid [9] 57/20 67/13 67/16 68/1 68/13 68/13 68/14 68/18 90/8	any [25] 6/2 6/3 8/12 8/18 8/23 12/25 31/13 32/10 33/17 35/23 38/10 40/12 42/4 47/22 51/6 60/16 79/3 81/11	Appalachians [1] 53/23	are [91] 5/9 6/10 8/4 8/8 8/25 9/1 9/18 9/23 10/7 11/10 12/11 12/11 12/12 13/12 14/10 15/18 15/20 17/3 17/12 32/12 33/4 35/23 37/5 41/15 42/11 42/11 44/15 45/11 45/13 48/23 48/24 49/25 51/13	52/21 55/12 56/2 56/5 56/7 56/22 56/23 57/19 58/13 60/16 61/20 62/8 63/4 63/22 65/16 66/1 67/1 68/16 69/3 69/5 70/14 70/19 71/4 71/6 71/7 71/18 73/10 73/12 73/17 74/4 74/15 74/19 75/13 76/10 77/22 79/3 80/7 82/9 83/1 86/11 86/14 86/21 87/3 87/14 87/22 87/23 87/25 88/23 90/24 91/14 91/14 91/23 99/11 100/2 100/21 101/6 103/16 107/2
alters [1] 81/1	Amyvid [1] 90/7		appearance [1] 68/5	argue [6] 10/11 43/7 43/16 43/17 44/1 46/17	52/21 55/12 56/2 56/5 56/7 56/22 56/23 57/19 58/13 60/16 61/20 62/8 63/4 63/22 65/16 66/1 67/1 68/16 69/3 69/5 70/14 70/19 71/4 71/6 71/7 71/18 73/10 73/12 73/17 74/4 74/15 74/19 75/13 76/10 77/22 79/3 80/7 82/9 83/1 86/11 86/14 86/21 87/3 87/14 87/22 87/23 87/25 88/23 90/24 91/14 91/14 91/23 99/11 100/2 100/21 101/6 103/16 107/2
Although [2] 58/17 88/7	analysis [6] 10/23 11/1 12/2 13/4 13/19 93/10		appears [1] 49/10	argued [1] 47/17	52/21 55/12 56/2 56/5 56/7 56/22 56/23 57/19 58/13 60/16 61/20 62/8 63/4 63/22 65/16 66/1 67/1 68/16 69/3 69/5 70/14 70/19 71/4 71/6 71/7 71/18 73/10 73/12 73/17 74/4 74/15 74/19 75/13 76/10 77/22 79/3 80/7 82/9 83/1 86/11 86/14 86/21 87/3 87/14 87/22 87/23 87/25 88/23 90/24 91/14 91/14 91/23 99/11 100/2 100/21 101/6 103/16 107/2
altogether [1] 99/2	analyze [1] 36/22		appendage [1] 15/15	argument [2] 40/7 47/25	52/21 55/12 56/2 56/5 56/7 56/22 56/23 57/19 58/13 60/16 61/20 62/8 63/4 63/22 65/16 66/1 67/1 68/16 69/3 69/5 70/14 70/19 71/4 71/6 71/7 71/18 73/10 73/12 73/17 74/4 74/15 74/19 75/13 76/10 77/22 79/3 80/7 82/9 83/1 86/11 86/14 86/21 87/3 87/14 87/22 87/23 87/25 88/23 90/24 91/14 91/14 91/23 99/11 100/2 100/21 101/6 103/16 107/2
	anatomical [1] 99/19		Applause [3] 29/14 30/21	around [10] 7/20 7/21 31/1 52/23 53/19	52/21 55/12 56/2 56/5 56/7 56/22 56/23 57/19 58/13 60/16 61/20 62/8 63/4 63/22 65/16 66/1 67/1 68/16 69/3 69/5 70/14 70/19 71/4 71/6 71/7 71/18 73/10 73/12 73/17 74/4 74/15 74/19 75/13 76/10 77/22 79/3 80/7 82/9 83/1 86/11 86/14 86/21 87/3 87/14 87/22 87/23 87/25 88/23 90/24 91/14 91/14 91/23 99/11 100/2 100/21 101/6 103/16 107/2

A	70/12 72/7 72/7 72/19 72/20 74/8 78/19 80/20 81/21 81/22 89/13 91/6 97/2 97/2 97/20 98/13 100/15 102/14 102/15 103/9	92/19 attack [2] 62/4 62/16 attend [1] 34/19 attended [2] 20/10 34/22 attorney [1] 108/11 attorneys [1] 108/13 authority [2] 33/15 43/6 authorized [3] 33/11 103/25 108/6 autonomous [1] 96/6 availability [1] 33/7 available [8] 36/2 73/23 73/25 74/7 100/2 100/21 101/4 102/4 avascular [1] 81/10 avid [1] 65/18 Avion [1] 1/11 avoid [1] 8/25 awarded [1] 29/2 aware [4] 32/13 45/1 100/20 102/8 away [4] 23/25 27/19 28/4 50/12 Axumin [12] 70/25 72/13 73/4 73/20 74/4 74/11 75/11 75/19 102/3 102/7 102/9 102/11	4/15 6/13 8/18 10/1 16/23 16/23 18/6 18/7 20/9 24/3 25/15 26/3 26/16 26/20 27/24 28/7 28/11 30/4 30/15 31/1 32/10 34/8 35/7 35/9 50/2 50/21 57/5 66/5 66/9 70/9 74/12 77/12 84/4 85/7 85/9 95/6 98/11 100/22 102/17 103/2 background [8] 20/3 32/9 52/4 69/13 69/18 69/19 87/16 92/23 backward [1] 98/15 bad [4] 41/17 52/9 54/2 82/19 bananas [3] 54/14 54/22 55/17 bar [1] 42/23 barium [2] 32/12 34/3 Barry [1] 22/22 base [3] 46/10 70/19 87/11 based [9] 7/1 10/22 10/22 13/13 16/14 16/23 17/5 93/11 101/25 baseline [1] 64/23 basement [1] 54/6 basically [29] 5/4 6/5 16/4 41/3 49/22 52/8 55/25	56/3 61/2 62/2 62/13 63/13 65/7 65/15 66/5 68/14 77/21 78/5 80/14 81/1 81/24 83/10 90/7 90/9 90/15 92/6 95/8 97/6 99/3 basis [3] 50/19 79/4 88/20 bay [3] 59/14 59/15 59/17 be [105] 4/16 5/16 6/19 6/22 6/23 6/25 7/18 8/4 8/21 8/23 9/15 9/18 10/14 10/25 11/1 12/3 12/19 15/13 15/14 15/15 18/6 18/7 19/1 23/16 28/16 28/17 31/3 31/18 33/1 33/5 33/7 33/11 33/15 34/3 34/24 35/7 35/11 37/10 37/21 37/22 39/9 39/23 42/15 43/21 43/23 43/25 44/3 44/18 44/23 45/7 45/8 45/23 46/11 47/15 48/8 49/21 50/24 52/6 55/18 58/2 58/7 59/16 59/19 60/21 61/21 62/3 64/5 65/1 71/2 71/6 71/14 72/4 74/14 75/25 76/15 77/10 78/12 78/15	79/18 83/4 84/20 86/9 89/12 89/24 90/3 90/9 92/7 92/14 93/15 94/11 98/23 100/24 102/8 102/10 102/11 102/22 104/23 105/2 105/5 105/10 105/11 105/20 105/23 106/1 106/21 beam [1] 4/17 bear [1] 50/21 beard [4] 25/15 26/2 26/5 26/6 beat [1] 61/18 Beatles [2] 31/8 31/9 beats [1] 65/2 became [1] 20/5 because [81] 7/16 11/17 12/13 17/4 26/9 26/15 30/10 31/1 33/1 33/3 35/14 36/15 42/10 43/12 44/13 44/14 46/12 46/13 47/8 48/25 52/9 52/14 52/25 55/9 57/12 58/4 63/21 63/22 67/5 67/18 67/21 68/13 69/2 69/8 69/13 69/16 70/24 72/19 73/25 74/13 75/12 75/20 75/24 77/2 77/8 78/6 79/3
----------	---	---	--	--	---

B

baby [1] 99/5
back [40]

B	67/7 71/23 92/9 101/24	64/15 92/2 92/16 94/13	blurry [1] 68/2	70/25 71/2 72/15 85/24	17/12
because...	beforehand	98/10 98/10	board [4]	85/25 85/25	bulwark [1]
[34] 81/20	[1] 51/5	bilateral [1]	59/20 63/7	86/6 87/2	28/8
82/16 83/2	beginning [1]	71/5	101/11 101/14	87/14 87/15	bump [1]
84/13 84/15	19/14	bile [4] 98/9	boards [1]	87/16 87/19	49/9
84/18 85/12	behind [1]	98/14 98/22	101/1	87/20 90/6	bunch [2]
85/16 86/5	40/3	99/2	body [20] 5/4	90/16 90/20	31/25 41/8
86/10 88/2	Behr [1] 21/2	biliary [3]	8/9 8/10 8/13	92/3 92/20	burden [2]
89/9 89/22	being [14]	98/19 99/2	8/23 9/8 9/12	92/21 93/9	85/19 90/23
91/20 92/2	4/16 30/7	99/5	9/19 9/21 9/23	brainstormin	bureau [11]
92/9 92/13	30/19 34/22	Bill [2] 2/5	11/4 69/10	g [1] 35/11	1/9 2/9 19/16
92/17 93/3	34/23 35/18	27/3	70/7 75/2 81/2	bread [4]	19/23 20/6
93/15 93/23	36/20 39/14	binds [1]	85/16 94/8	56/22 60/20	20/11 21/20
94/13 95/8	61/10 67/16	73/3	94/24 95/1	61/3 99/24	23/3 23/11
96/4 96/9	72/9 75/7 87/2	biology [1]	96/24	break [1]	27/2 29/2
97/16 98/10	96/14	19/24	boil [1] 54/15	51/11	bureaucracy
100/20 102/5	believe [3]	biopsy [3]	bomb [2]	breakthrough	[1] 15/25
102/8 102/9	42/14 43/21	65/20 65/23	53/10 53/13	[2] 71/21	burn [3]
103/6 104/4	82/16	96/15	bone [27] 4/3	92/16	69/22 71/19
105/22	Bellefond [3]	biopsying [1]	13/21 13/23	breast [1]	85/17
Becker [3]	21/9 21/11	65/21	56/16 70/4	69/21	burns [5]
2/10 19/5 29/3	21/12	bit [13] 7/15	73/16 75/8	breathe [2]	63/25 69/17
Becky [2]	below [3]	16/24 20/1	75/12 75/12	77/10 77/12	70/20 86/1
34/15 106/11	29/6 80/4 80/5	20/14 20/17	79/1 79/2 79/5	breathing [1]	96/1
become [1]	benefit [2]	37/12 45/25	79/9 79/22	77/13	business [3]
65/17	4/22 6/16	58/25 65/6	80/3 80/7 80/8	breeze [1]	2/12 104/9
becomes [1]	best [4] 15/3	79/18 86/9	80/11 80/17	52/24	104/9
97/16	56/6 68/7	89/6 103/4	80/20 81/19	Brenda [2]	butter [2]
been [31]	103/23	bites [1]	81/24 82/11	2/12 106/23	56/22 99/24
14/23 15/6	beta [2]	78/21	85/10 85/17	bright [2]	buying [1]
17/8 17/10	74/14 95/10	Black [1]	100/23 100/24	64/2 70/13	38/22
19/17 19/20	betas [1]	28/21	bones [5]	bring [3]	Byrd [1]
21/15 30/2	71/18	bladder [1]	4/10 13/20	24/23 57/4	11/22
31/20 34/23	better [13]	79/12	68/10 79/3	66/5	C
42/17 43/3	22/3 22/23	blazing [1]	85/2	brings [1]	cabbage [1]
43/4 44/14	41/19 73/5	84/21	borders [1]	63/23	62/15
44/19 44/22	74/5 74/6	block [1]	82/13	broke [2]	calcium [1]
44/24 45/4	82/14 95/12	31/11	Boric [1]	83/22 84/1	58/9
45/13 45/21	100/24 102/6	blockage [1]	27/14	broken [1]	calculating
56/16 56/19	103/13 106/1	57/2	both [7]	8/13	[1] 6/20
59/18 60/19	106/11	blocked [4]	71/22 74/7	brother [1]	calculation
62/21 69/3	between [10]	60/16 61/25	74/8 74/9	25/24	[3] 6/22 11/13
72/12 85/24	9/24 33/14	62/11 62/22	75/13 83/22	brought [1]	11/25
95/5 101/14	47/20 88/3	blocks [1]	94/10	31/15	calendars [1]
106/10	90/17 90/18	62/20	bottom [2]	bucks [1]	104/13
before [16]	90/22 91/10	blood [5]	38/11 62/9	16/15	California [1]
6/6 10/21	94/9 103/7	64/8 78/7	bowel [2]	build [2] 54/5	13/18
17/11 25/13	big [13] 17/2	78/14 83/13	72/2 97/13	54/7	call [8] 42/21
27/2 29/17	39/22 54/16	89/10	boy [1] 29/9	building [1]	68/1 73/19
31/4 31/16	55/2 56/9	blows [1]	brain [22]	23/24	74/18 98/4
50/18 62/15	58/18 59/3	24/3	70/20 70/20	built [1]	101/17 102/7
64/16 65/24					

C	33/1	category [3]	2/2 2/2	chiropractors	25/19 43/19
call... [1]	capillaries [1]	47/12 47/13	challenge [1]	[2] 37/7 37/8	46/5 46/18
103/18	77/23	48/22	37/1	Chomchesky	48/2 89/6
called [4]	capture [1]	cath [2] 58/1	chance [2]	[1] 22/22	closed [3]
37/18 66/23	36/22	62/23	90/13 96/14	CHP [2] 2/3	47/23 47/24
90/7 90/10	cardiac [8]	cause [7]	chances [1]	2/6	48/5
calling [2]	56/9 56/12	67/23 79/18	80/6	chronic [3]	clot [2] 76/14
101/10 103/1	56/25 60/11	84/25 84/25	change [16]	83/4 97/7	78/6
came [11]	65/6 65/10	93/4 97/19	14/1 16/3	97/17	clothes [1]
20/4 22/8	65/16 68/1	98/13	20/14 37/15	chunk [2]	9/20
23/14 25/23	cardiomyopat	causes [1]	37/15 58/17	55/2 56/9	clots [2]
42/5 53/7 53/9	hy [1] 64/13	81/3	87/19 90/2	Cindy [19]	76/17 78/24
67/19 73/1	cardiotoxic	CCSP [1] 2/5	101/18 101/23	2/10 19/1	cluster [1]
73/6 91/25	[2] 64/17	CDC [3]	101/25 102/1	19/23 20/2	74/22
camera [6]	64/20	34/23 34/25	102/5 102/11	20/21 20/22	CNMT [2] 2/4
59/22 69/1	care [17] 4/9	35/7	102/25 104/6	21/7 22/1	2/7
69/2 88/6	4/19 4/20 4/24	CE [12] 37/13	changed [5]	22/23 25/4	cobalt [2]
88/15 88/15	4/25 5/11	37/15 37/16	72/25 74/20	26/25 27/2	13/6 13/8
cameras [1]	39/14 51/22	38/3 38/4 38/7	74/25 100/22	27/24 28/2	codes [2] 8/4
88/14	51/24 56/7	38/16 38/23	101/23	28/17 28/22	33/13
can [166]	56/22 62/23	38/24 49/13	changes [1]	29/3 29/17	coefficients
can't [17]	68/24 76/7	49/15 49/16	38/10	31/6	[2] 11/10
5/13 13/18	83/6 99/10	Cell [1] 63/10	changing [3]	circumflex	11/13
22/23 23/3	99/25	cells [2] 64/9	99/19 101/24	[1] 62/1	cold [1] 96/13
24/12 25/9	career [1]	67/17	102/16	City [1] 5/20	colicystitis
36/15 48/1	21/23	center [3]	Chantel [1]	Clark [14]	[3] 97/7 97/22
54/11 55/21	careful [1]	31/7 53/3 92/3	2/4	2/11 19/17	98/4
56/15 56/21	93/15	centimeter	character [3]	19/21 21/13	colon [3]
70/9 76/24	carriers [1]	[1] 74/17	17/16 22/7	23/9 23/10	10/6 10/9
90/21 91/9	56/23	central [1]	36/19	23/17 25/1	69/21
95/23	carrying [1]	35/18	characteristic	25/5 25/12	color [2]
cancer [24]	22/1	certain [7]	s [2] 14/9	30/9 31/20	25/15 61/9
70/2 70/15	case [23]	15/16 16/11	95/12	32/20 105/1	colors [1]
70/19 71/1	24/3 25/18	45/10 57/9	charge [2]	classic [3]	53/25
72/19 72/24	33/10 33/13	86/6 94/5	39/18 45/3	84/17 86/6	Columbia [1]
72/25 73/5	33/20 33/21	103/12	cheat [2]	86/21	41/13
73/9 73/14	33/22 48/9	certainly [3]	61/11 93/13	clause [2]	combined [1]
74/2 75/6 75/9	49/2 61/23	12/10 15/19	check [1]	49/11 49/12	35/18
75/24 79/22	61/25 63/18	43/18	36/1	clear [3]	come [16]
79/23 80/1	65/9 70/4	certificate [3]	chemotherap	69/12 77/10	7/18 11/2 13/2
84/24 86/25	73/16 73/25	29/1 38/12	y [1] 64/14	79/11	19/10 19/24
87/4 87/7 88/9	77/6 78/12	108/1	chest [7]	cleared [1]	30/15 42/13
97/2 102/3	78/20 81/12	certification	54/18 54/20	77/25	44/20 49/9
cancers [2]	82/3 82/6	[1] 43/6	54/24 58/11	clients [1]	50/2 52/23
69/15 69/20	82/23	certified [2]	75/4 76/3	88/18	66/3 76/21
candidate [1]	cases [11]	38/23 43/4	101/2	clinical [5]	85/9 100/23
12/6	5/10 9/23	certify [2]	chief [6] 2/10	57/11 58/6	103/2
candidates	47/20 47/21	108/5 108/10	20/6 20/11	82/6 92/9	comes [7]
[1] 41/9	47/23 47/24	CEUs [1] 39/6	21/20 23/3	92/18	55/5 55/11
Cannon [1]	48/15 48/25	chair [2] 29/6	27/2	clinics [2]	55/16 55/21
25/11	57/9 70/18	29/7	chiefs [2]	103/16 103/19	66/18 82/10
cannot [1]	71/4	Chairman [2]	19/16 19/24	close [6]	84/4

C	computer [2] 26/10 26/11	consensus [2] 7/2 37/17	104/2	couple [6] 5/15 64/9 77/7 83/14 91/4 93/17	85/12 98/1
comfortable [1] 69/5	computers [1] 26/15	consider [3] 6/4 12/7 63/16	cookies [1] 24/24	course [13] 4/8 10/21 11/9 25/1 30/2 34/6 34/11 38/4 38/15 38/16 53/2 53/5 54/8	CTA [2] 56/20 76/24 CTAs [1] 56/21 CTs [1] 58/8
coming [5] 42/11 44/13 59/6 100/1 100/17	concentration [1] 4/10	considered [1] 47/4	Cooksey [1] 27/19	Corbett [1] 2/4	cup [1] 21/3 cure [1] 85/19
commas [1] 92/22	concentration s [1] 14/8	consistent [4] 10/25 11/1 62/3 90/24	cool [1] 23/23	corner [2] 27/1 28/8	curious [2] 88/12 89/15
comments [1] 7/25	concepts [1] 13/1	constantly [2] 79/3 101/1	coronaries [1] 60/15	court [3] 15/22 15/23 17/22	current [3] 8/2 16/1 27/12
commissioner [2] 36/9 36/10	concern [1] 4/8	constituent [1] 54/16	coronary [6] 56/10 57/1 57/25 61/25 62/13 65/25	cover [2] 8/7 99/8	currently [5] 5/21 36/1 41/24 48/7 73/10
committed [4] 42/18 43/3 43/13 46/14	concluded [1] 107/5	consult [1] 101/24	correct [2] 43/16 108/8	covered [1] 44/3	cut [2] 84/13 104/18
common [5] 58/14 77/2 80/16 98/9 98/20	condition [1] 81/16	consultant [2] 2/12 16/5	correctly [2] 97/10 97/18	crazy [1] 83/24	cutting [1] 100/1
communications [2] 5/22 5/25	conditions [3] 4/18 41/15 80/15	continue [1] 47/15	correlation [1] 42/10	CRC [3] 1/19 108/5 108/19	cyclotron [1] 59/2
comparative [2] 7/22 12/2	conduct [4] 48/12 48/13 48/14 48/23	continued [1] 81/18	cortex [1] 95/2	CRCPD [6] 13/16 104/15 104/20 105/1 105/20 106/2	cyclotrons [1] 59/4
compare [2] 11/3 93/11	conducted [2] 32/12 50/11	continuing [1] 37/19	cost [1] 17/3	credit [1] 38/5	cyst [1] 87/2
compared [3] 60/22 60/22 62/9	conferences [1] 101/2	contraband [2] 8/15 9/15	could [14] 10/10 10/11 10/11 21/4 30/3 33/7 37/11 39/9 47/5 50/17 55/18 59/16 71/14 76/15	crime [5] 42/18 43/6 43/7 43/13 46/13	D
comparing [1] 91/11	confirm [8] 65/21 74/19 80/19 81/22 91/6 92/11 93/2 93/5	contracted [1] 16/16	couldn't [5] 11/18 30/9 35/15 84/14 85/7	criteria [1] 32/22	D-dimer [1] 76/18
compatible [1] 66/9	confirms [8] 65/19 65/22 81/24 83/10 84/5 97/24 98/5 99/3	contractility [1] 66/14	council [9] 1/2 2/1 15/16 15/18 20/10 28/25 29/4 31/2 45/9	cross [6] 60/3 60/23 70/24 92/21 93/8 94/8	DABMP [1] 2/2
compensate [1] 62/12	conflict [1] 105/11	contracting [1] 67/2	council's [1] 45/10	crossed [1] 41/23	DABR [1] 2/2
competing [1] 104/21	conform [1] 37/16	contrast [2] 76/20 76/25	couldn't [5] 11/18 30/9 35/15 84/14 85/7	CR [3] 1/19 108/5 108/19	DACBR [1] 2/5
complaining [1] 82/9	congestive [8] 57/17 57/19 65/11 66/1 66/21 67/4 67/7 67/22	contributed [1] 30/5	counsel [3] 103/8 108/11 108/13	CRT [3] 66/6 67/5 67/8	daily [1] 79/4
complaints [1] 48/25	connect [1] 17/13	control [5] 1/9 2/9 23/11 23/15 46/20	counsel's [1] 50/8	crossed [1] 41/23	Dalmore [1] 28/4
completely [1] 83/2	connected [1] 108/13	controlled [2] 46/3 46/14	county [3] 15/10 27/11 108/3	CRR [3] 1/19 108/5 108/19	Dan [3] 25/9 27/13 27/14
complex [2] 80/23 82/24		controls [1] 92/4		CR [3] 66/6 67/5 67/8	dancing [1] 20/20
complications [1] 96/5		conveniently [1] 24/14		crying [1] 29/25	Danek [1] 2/6
comply [1] 49/1		converted [1] 17/8		CT [16] 2/5 37/2 55/6 55/8 55/13 70/8 70/8 71/7 73/18 75/10 75/15 76/19 84/17 84/19	dark [1] 64/2
composition [1] 13/19		convicted [3] 44/19 45/14 45/22			data [11] 10/20 10/22 12/13 16/22 17/14 34/22 35/5 35/6 36/24 37/2 93/12

D	86/20 91/12	31/4	diagnosis [3]	digestive [2]	82/6
database [5]	decreasing	depend [1]	34/10 76/23	10/6 10/9	distress [1]
16/23 16/24	[1] 85/18	11/6	92/9	digitally [1]	64/1
17/8 17/15	dedicated [1]	depending	diagnostic [6]	14/17	distribution
35/18	60/11	[2] 48/13 86/3	35/22 55/8	dimer [1]	[2] 48/9 75/20
date [1]	deep [1]	depends [2]	55/15 56/15	76/18	division [2]
72/16	76/13	82/18 88/9	60/1 81/7	direct [1]	22/18 41/7
DATED [1]	def [2] 63/5	deposited [1]	dialogue [1]	44/5	do [117]
108/15	63/6	67/16	102/16	direction [1]	doctors [6]
dates [1]	defect [4]	deposition	did [15] 6/10	8/3	51/22 76/7
105/9	63/15 78/8	[1] 68/15	6/12 7/3 9/6	directly [3]	83/5 83/7
DaTscan [2]	78/9 78/16	deposits [1]	16/19 16/19	43/8 44/1	99/25 103/7
92/2 93/18	defects [1]	57/20	35/13 40/22	45/11	document [1]
DaTscans [1]	78/5	detail [2]	41/12 42/22	directs [1]	38/7
94/23	definitely [3]	56/12 85/12	43/25 51/19	86/14	documentatio
David [2]	72/7 75/6	detailed [1]	53/16 84/13	disability [1]	n [2] 6/4
22/2 22/3	89/18	85/9	108/6	47/14	38/13
day [11] 9/17	definition [1]	detect [2]	didn't [19]	discharge [1]	documented
9/25 10/8	33/2	74/5 79/3	7/23 11/11	47/9	[2] 9/23 10/2
17/11 22/19	delayed [4]	determinatio	14/8 24/23	discharged	documents
52/16 70/9	16/2 80/13	n [2] 6/19	25/3 42/25	[1] 46/4	[1] 31/25
89/11 103/14	81/23 83/14	6/23	49/1 49/3 49/3	disciplinary	does [17]
103/14 108/15	delegate [1]	determinatio	49/4 55/22	[1] 43/4	32/25 33/5
day-to-day	33/18	ns [1] 7/13	67/7 70/9	discipline [3]	37/25 49/13
[1] 103/14	delineation	determine [3]	72/16 83/19	47/19 47/20	51/21 51/24
days [7] 5/15	[1] 90/18	4/5 50/9 86/4	85/6 94/18	49/2	55/14 55/15
23/20 23/21	delivered [1]	determined	98/21 102/18	discomfort	62/19 66/7
35/16 105/22	59/16	[2] 4/21 6/16	difference [3]	[1] 84/25	66/17 68/12
106/7 106/11	dementia [2]	detour [1]	90/17 90/22	discuss [3]	72/21 79/18
DC [2] 2/5	86/7 94/24	18/24	91/10	8/3 35/2 38/10	85/20 100/8
34/19	demonstrates	develop [2]	differences	discussion [3]	106/9
deal [3]	[1] 81/20	40/6 53/12	[1] 88/21	12/25 31/17	doesn't [20]
52/20 84/14	denial [4]	developed [4]	different [35]	51/9	20/7 36/13
99/22	4/14 5/14 43/1	53/10 55/3	12/19 13/22	disease [18]	39/6 39/18
dealing [2]	46/12	72/13 85/5	14/2 17/13	57/25 69/23	45/7 50/11
50/15 84/12	denied [1]	developing	25/15 26/23	69/24 71/20	55/9 64/22
debatable [1]	42/15	[1] 70/22	32/4 46/1	73/19 73/21	66/9 69/10
52/18	Dennis [1]	development	47/11 47/19	74/6 74/18	69/16 70/24
Debbie [3]	27/3	[2] 6/11 16/11	56/18 58/13	74/19 84/16	72/20 75/23
24/7 24/9	Densities [1]	deviation [1]	60/25 64/9	86/5 92/7	77/23 82/10
24/10	14/3	93/13	66/3 67/1 67/2	92/12 94/8	94/6 97/18
debilitating	dental [2]	device [2]	68/20 75/20	94/17 94/19	97/19 99/5
[2] 94/11	36/4 37/3	21/3 42/19	77/7 78/4	95/1 95/21	dogs [1]
94/17	deny [1] 43/2	devices [3]	80/15 80/24	diseases [1]	39/22
decays [1]	department	66/4 66/6 67/5	82/23 86/2	86/2	DOH [2] 39/2
59/25	[9] 2/9 6/22	diabetic [2]	86/4 86/12	disorders [2]	39/12
decide [1]	6/24 7/1 24/1	81/13 81/16	88/3 90/2 90/3	79/8 86/7	doing [22]
50/2	37/12 39/17	diagnose [4]	91/3 97/3	disrobing [1]	7/19 8/10 12/4
decrease [2]	52/25 89/4	68/6 82/15	99/20 101/18	43/20	12/7 13/18
86/6 89/11	departments	86/2 92/6	102/12	dissolve [1]	16/12 32/5
decreased [4]	[1] 15/11	diagnosed [1]	differentiate	97/14	32/23 38/14
60/17 79/5	departs [1]	67/21	[1] 86/8	distance [1]	39/20 41/6

D	15/12	dysfunctione	EF [3] 61/20	emergency	equal [1]
doing... [11]	down [17]	d [1] 97/16	64/13 64/16	[1] 12/23	61/13
41/22 59/3	28/13 50/4	dyspnea [1]	effect [2]	emerging [5]	equally [2]
59/19 64/14	54/2 54/15	58/11	49/20 98/14	12/24 18/22	61/10 66/17
87/8 88/2	60/9 61/7	dyssynchrony	effective [1]	31/10 31/13	equals [1]
88/19 93/5	66/13 66/19	[1] 66/23	85/18	34/17	54/14
101/9 101/21	76/2 86/11	dystrophy [1]	effectiveness	employee [4]	equipment
103/17	86/14 88/11	82/24	[1] 49/21	28/7 41/14	[4] 36/14
don't [51]	90/21 90/24	E	efficient [1]	108/11 108/12	36/16 36/21
5/12 7/24 9/14	92/23 94/25	E-L-D-R-E-D-	66/11	empties [1]	88/3
12/7 14/17	99/3	G-E [1] 17/24	efficiently [1]	66/19	ER [1] 76/21
15/1 15/7 15/8	downtown	each [2]	66/20	enacted [1]	era [2] 28/20
19/3 22/7	[1] 5/18	12/18 34/24	EFs [1] 57/10	49/25	53/7
30/10 30/10	DQ [1] 77/3	earlier [4]	Einstein [1]	encompassin	eradiated [1]
33/1 35/15	Dr. [3] 23/2	21/22 27/19	53/9	g [1] 51/22	74/14
36/20 37/10	27/9 51/4	53/6 104/15	either [11]	encounter [1]	Eric [1] 24/4
38/17 38/21	Dr. Jarrett [1]	early [1] 32/6	10/22 10/25	49/24	eroding [2]
39/7 40/16	23/2	easier [2]	44/18 47/24	end [12]	87/10 87/10
41/25 42/1	Dr. Jose [1]	60/7 103/6	55/6 56/4	16/23 19/6	errors [1]
43/11 45/1	27/9	easily [1]	71/17 76/14	19/11 28/20	13/19
50/3 50/14	Dr. Plaxton	98/24	79/6 81/25	31/22 45/22	especially [1]
54/6 55/14	[1] 51/4	easy [7]	103/19	58/5 66/22	36/4
58/3 61/16	dramatically	61/11 61/12	ejection [2]	69/16 77/13	essentially
64/25 66/24	[1] 66/2	69/25 84/22	57/7 64/11	90/4 97/21	[1] 38/24
67/23 76/1	drink [1]	84/22 91/12	Eldredge [1]	ended [1]	establish [1]
76/17 77/17	93/21	93/13	2/11	75/7	11/16
79/25 82/21	drives [1]	eat [2] 54/10	electronic [1]	endorsement	estimate [1]
84/19 87/16	76/12	54/22	42/19	[1] 44/14	4/10
89/13 91/22	drop [3]	eaten [1]	electrons [1]	ends [3]	evaluates [1]
91/25 93/25	64/18 64/19	78/21	56/4	73/13 80/10	57/1
94/20 96/2	64/22	echo [3]	element [2]	87/2	evaluating
99/2 102/11	Drotar [1]	57/12 67/25	56/6 60/2	energy [2]	[1] 6/20
103/19 104/6	2/7	68/6	elevated [2]	24/1 69/16	Evaluation
106/23	drug [2]	echocardiogr	58/12 76/18	engineer [1]	[1] 37/20
done [6]	47/10 92/25	am [1] 57/8	eliminate [1]	41/15	evaluations
17/11 29/22	drug-induced	echos [1]	59/18	enlarged [2]	[1] 7/19
30/23 32/15	[1] 92/25	57/13	else [12] 4/9	73/18 95/22	even [23]
50/20 77/3	drugs [4]	economic [1]	9/20 10/8	enough [4]	7/24 11/20
door [1]	93/3 93/5 93/6	39/23	14/13 15/15	24/12 48/1	19/20 36/18
28/14	94/3	economics	27/8 37/9	78/1 90/3	36/20 46/9
dose [15]	duct [2] 98/9	[1] 12/10	40/12 46/23	entire [1]	46/25 52/11
9/13 10/15	98/14	economists	95/18 104/5	70/7	52/12 52/20
11/5 11/12	due [1] 81/16	[1] 12/10	106/16	environmenta	52/25 54/10
11/14 25/6	dumping [1]	edge [1]	embarrassing	l [4] 2/11	73/3 73/5 73/9
26/9 34/20	96/22	100/1	[1] 25/5	2/12 15/9 23/7	83/9 83/19
35/20 35/25	dumps [1]	educated [2]	embeds [1]	envision [1]	84/19 87/4
36/7 36/13	97/12	41/13 52/15	77/25	33/24	89/8 89/25
36/18 36/20	during [5]	education [2]	emboli [3]	envisioned	99/10 101/13
89/1	12/23 34/11	37/19 103/10	76/9 78/17	[1] 34/4	events [1]
doubt [1]	48/5 64/21	educational	78/19	epidemiologis	12/12
93/19	84/5	[1] 39/24	embolus [1]	ts [1] 7/20	eventually
doubting [1]	dynamically		78/15	epidemiology	[5] 20/5 77/25
	[1] 17/19			[1] 12/2	

E	54/11 55/21	facility [2]	fearful [1]	23/3 29/23	Flurpiridaz
eventually...	expand [1]	33/25 34/2	52/11	77/6 86/13	[1] 59/8
[3] 83/5 95/25	22/4	fact [1] 20/4	feed [3]	105/21 105/22	FNMT [3]
101/20	expect [3]	factor [1]	17/14 35/7	fiscal [2]	39/5 39/6
ever [3]	48/24 75/5	44/23	60/16	47/23 48/5	105/8
24/12 102/22	102/18	factors [2]	feel [2] 25/3	fit [1] 33/1	folks [8] 7/22
102/23	expensive [1]	76/10 89/12	101/17	five [7] 40/22	11/11 12/11
every [7]	85/20	failure [9]	feels [1]	49/20 50/7	19/19 28/5
21/16 36/6	experience	57/17 65/12	104/1	51/11 55/11	28/18 42/9
36/17 38/7	[1] 12/1	66/1 66/22	felony [2]	64/19 64/22	46/6
38/23 52/16	experienced	67/4 67/7	46/11 47/4	five-minute	follow [3]
101/17	[2] 15/17	67/13 67/22	felt [1] 43/1	[1] 51/11	48/24 48/25
everybody	41/14	77/1	few [4] 19/19	fix [3] 65/24	49/5
[5] 18/1 27/21	expertise [2]	fair [1] 22/14	26/16 73/6	84/8 98/23	follow-up [2]
30/25 31/4	30/11 34/5	fall [4] 47/12	106/21	fixed [2]	48/24 48/25
34/25	expire [1]	47/13 48/21	field [2]	63/15 88/7	following [2]
everyone [2]	50/18	52/5	20/23 21/20	fixing [1]	4/18 16/11
18/25 52/10	explain [3]	falls [2] 41/4	fiery [1] 54/1	57/18	foot [1] 84/1
everything	10/18 26/14	89/16	fifteen [1]	flights [1]	forced [1]
[9] 15/25	54/13	false [1] 58/5	92/1	76/12	50/5
30/22 46/23	explained [1]	familiar [3]	figure [5]	floating [1]	foregoing [2]
63/8 87/5	10/3	52/7 53/2	62/21 92/8	95/19	108/7 108/7
98/21 99/12	exploding [1]	86/12	96/16 97/25	Florida [24]	foreign [1]
99/15 104/5	100/3	Family [1]	105/17	1/12 1/20 2/9	69/11
exactly [3]	exposed [6]	9/4	figured [2]	4/15 19/9 20/5	forever [1]
41/7 52/19	4/17 5/1 6/17	fancy [1]	52/3 100/10	24/4 37/16	19/4
89/8	13/21 54/8	57/6	filed [1] 41/5	38/15 38/17	forget [1]
exam [1]	54/14	far [5] 30/6	files [2] 22/8	39/1 39/3 39/7	19/17
10/5	exposure	32/4 36/2 47/7	93/12	39/24 41/24	forgot [1]
examine [1]	[18] 4/11	68/17	fills [5] 62/9	46/8 46/10	104/12
10/6	4/22 4/23 4/25	fashion [1]	63/19 90/10	46/11 48/18	former [5]
example [3]	6/15 6/18 6/25	50/11	97/11 97/22	49/15 51/17	25/9 27/2
37/24 70/2	8/7 8/24 33/11	fast [2] 52/24	filtering [2]	51/18 54/3	27/25 28/3
82/5	34/22 35/5	97/12	14/6 36/23	108/2	41/14
examples [2]	53/20 53/20	fatal [1]	final [2] 49/1	Florida's [1]	Fort [2] 27/4
70/14 73/13	54/18 55/4	76/15	104/3	11/15	27/15
excellent [3]	55/10 77/14	fats [1] 97/14	finally [2]	flow [6] 62/2	forth [2] 10/1
19/25 21/16	extended [1]	fatty [3]	59/7 84/12	80/12 81/13	26/23
29/3	85/21	63/25 97/11	financially [1]	81/21 83/11	forward [1]
except [3]	extra [2]	97/19	108/14	83/13	48/2
32/5 69/11	17/4 39/14	FDA [2] 91/4	find [8] 7/18	flowing [2]	found [4]
106/11	eyes [1]	101/14	23/14 41/1	78/7 78/14	5/15 72/18
exclusively	25/19	FDG [16]	48/1 62/14	fluciclovine	83/5 87/6
[3] 70/21 86/1	F	63/2 63/20	63/19 67/9	[1] 70/23	four [5] 19/7
95/11	F-18 [5] 59/8	63/24 65/8	86/23	fluorene [1]	19/18 23/21
excuse [1]	59/9 69/6	65/8 65/19	fine [3] 8/10	59/9	45/19 64/19
16/22	71/14 85/6	69/6 85/25	49/3 83/22	fluoride [2]	Fox [2] 23/12
exercise [2]	facilities [6]	86/8 86/12	finishing [1]	85/6 85/6	23/23
20/24 62/20	5/3 32/10	87/15 87/17	59/20	fluoro [2]	fraction [1]
exercises [1]	32/12 32/13	91/5 91/11	first [10]	36/17 36/17	64/11
25/7	34/12 36/3	94/23 98/12	16/21 20/10	fluoroscopy	fracture [5]
exist [2]		FDR [1] 53/12	20/18 21/2	[1] 32/22	57/7 79/19

F	71/12 71/14	59/24 60/13	giving [6]	57/20 62/11	98/24 101/11
fracture... [3]	73/8 75/19	60/18 63/21	9/12 10/5	62/19 71/10	106/3
82/13 82/15	100/9 100/12	64/13 65/3	10/14 14/22	74/8 97/9 99/5	gotcha [1]
82/20	101/9	70/8 70/15	59/25 94/1	105/22	23/19
fractures [3]	Gallium-68	76/13 76/21	glad [1] 30/1	going [47]	grade [4]
81/6 82/5 82/9	[4] 71/12	76/22 76/22	gland [6]	8/12 9/17 11/2	68/17 98/7
framework	71/14 73/8	76/24 77/3	74/3 93/23	11/5 12/23	98/13 98/17
[1] 8/6	101/9	77/10 77/21	95/19 95/22	16/4 16/6	grades [1]
frequently [1]	gamma [3]	77/22 79/25	96/9 96/10	16/17 18/24	68/16
79/23	21/5 59/22	79/25 80/3	glands [1]	19/10 23/13	Grave's [1]
Friday [2]	95/11	80/5 80/25	75/23	29/25 30/14	95/21
104/23 105/24	gaps [3] 36/3	82/6 82/11	Gleason [1]	36/3 36/5 37/5	gray [2]
front [5]	36/6 37/5	83/1 84/4	80/4	40/15 41/9	90/17 91/9
19/19 26/10	gas [1] 77/8	84/16 84/18	Glen [1]	42/11 47/16	great [6]
31/6 31/8 31/9	gathered [1]	85/10 86/13	24/20	48/8 50/14	24/21 31/3
frustrated [1]	31/25	90/11 93/16	glucose [11]	50/18 50/21	53/23 54/5
83/2	gears [4]	98/11 101/2	63/24 65/9	50/24 51/6	58/22 59/12
FSU [1] 23/13	65/6 68/23	101/13 101/14	69/5 69/10	58/1 58/4	greater [3]
fuel [1] 21/18	76/6 79/1	102/17 105/24	69/17 69/22	58/17 59/19	4/23 6/17 80/1
fully [1]	general [9]	gets [6] 4/5	70/17 70/21	60/21 62/2	green [1]
85/23	31/24 32/19	34/8 62/11	72/21 86/1	62/24 63/8	26/12
fun [1] 21/24	32/24 33/5	69/13 82/10	91/6	63/11 64/6	grounds [1]
function [3]	33/6 33/23	99/3	glycolysis [1]	65/5 74/14	43/1
91/17 91/22	34/1 35/20	getting [10]	69/15	76/6 79/1	group [9]
98/11	50/8	21/4 34/21	go [40] 8/18	80/10 88/17	28/9 30/1 30/4
functional [2]	generally [1]	35/5 58/2	18/16 20/12	91/21 95/3	30/5 30/10
99/18 99/21	105/23	62/10 70/16	25/20 26/19	97/24 101/12	30/14 30/20
functioning	generator [1]	76/8 88/7	32/10 36/19	102/25	31/5 48/14
[3] 95/15 97/9	58/20	97/21 101/12	39/8 40/18	gone [3]	groups [1]
99/22	gentleman	Gilbride [1]	40/24 46/8	19/24 88/11	35/2
funded [1]	[1] 42/17	2/5	48/2 50/14	91/23	growing [1]
34/23	George [2]	Gill [1] 24/18	55/24 56/11	good [15]	79/17
further [3]	2/5 27/1	Gillan [2]	57/5 58/1	8/18 17/17	growth [2]
82/1 86/15	Gerald [1]	26/8 27/8	62/14 62/22	22/12 25/3	79/17 79/19
108/10	24/2	Gilly [3] 23/4	62/22 63/8	59/3 69/7	guaranteed
fuse [1] 70/7	get [72] 7/24	23/5 24/7	65/20 65/23	69/12 72/9	[1] 90/12
fuses [1]	8/6 9/6 11/20	Giovanna [3]	73/15 74/12	75/8 80/20	guess [9]
85/12	12/6 13/11	2/12 13/9	77/20 79/22	84/7 84/8	17/21 20/1
Futch [1]	16/2 16/7	28/13	81/19 83/2	87/11 104/7	23/16 44/12
2/11	16/20 16/22	give [16]	85/17 86/11	106/14	49/8 56/11
future [4]	22/3 22/4	9/24 10/20	86/15 87/12	goodbyes [1]	85/4 99/7
45/9 49/11	22/23 24/12	10/21 41/21	88/25 90/21	26/23	104/8
49/12 63/8	36/25 39/8	42/16 47/18	95/4 98/23	got [22] 7/5	guidance [3]
G	39/11 40/7	51/20 56/17	99/3 100/22	7/11 10/21	33/14 35/9
gait [1] 61/18	42/11 50/11	58/22 68/4	106/8	10/25 12/16	48/3
gallbladder	50/19 50/25	76/20 93/12	goal [3] 4/6	12/20 14/4	guy [5] 23/24
[7] 97/9 97/11	51/6 52/9	96/3 97/11	4/6 14/23	14/15 16/14	41/13 71/5
97/13 97/15	52/16 53/20	97/18 104/12	goals [1] 8/4	19/5 25/19	84/10 98/16
97/23 98/8	53/22 54/8	given [2]	goes [15] 9/9	26/12 27/8	guys [7] 7/3
98/23	54/14 54/18	42/14 47/22	34/8 50/12	29/5 29/6	28/6 29/13
Gallium [7]	55/2 56/21	gives [2]	50/16 52/3	39/19 46/20	53/18 85/23
	58/8 59/15	29/17 55/13	55/23 57/16	72/16 93/8	87/22 89/16

H	happens [5] 44/22 44/24	health [13] 28/1 28/7	53/20 53/22
had [30] 5/16	48/18 52/11	having [8] 2/9 4/9 4/19	highly [2] 28/18 29/6
5/25 11/19	98/18 98/19	4/20 4/22 4/23	41/14 52/15
13/21 19/13	100/13	4/24 4/25 5/11	Hilton [1]
19/16 19/19	hard [8]	6/18 15/9	18/16
19/23 20/12	43/11 70/13	15/10 39/17	him [6] 14/14
25/14 31/15	72/4 75/17	healthy [1]	23/22 23/25
31/16 31/20	80/21 83/18	93/7	26/5 28/6
43/4 45/21	86/19 104/2	hear [1]	42/22
46/2 62/4	harder [2]	58/17	himself [1]
65/15 70/11	64/25 71/7	heart [33]	53/16
72/1 80/24	hardware [2]	57/2 57/7	hire [3] 16/6
81/15 82/23	35/16 81/11	57/16 57/17	16/17 16/19
83/18 84/10	Harlon [1]	57/19 57/21	hired [1] 26/3
84/10 94/24	23/6	60/12 60/14	his [7] 4/21
97/15 98/16	harmful [1]	60/15 60/19	25/10 72/2
102/10	77/24	61/1 61/2	81/15 81/16
hairdo [3]	has [62] 4/8	61/18 62/4	81/23 83/19
22/24 23/1	4/21 11/1 17/8	62/15 63/25	historically
24/12	24/14 26/25	65/2 65/11	[2] 11/17
half [6] 58/19	30/5 31/25	65/14 65/21	106/10
58/20 58/25	34/2 36/7	66/1 66/10	history [1]
59/13 69/6	36/17 39/19	66/17 66/21	83/8
77/12	42/18 43/3	66/24 67/4	hit [1] 81/7
half-life [5]	43/18 45/4	67/7 67/13	holding [2]
58/19 58/25	54/10 56/19	67/17 67/22	21/1 21/7
59/13 69/6	58/5 58/19	68/3 68/15	home [1]
77/12	58/25 60/18	68/19	5/20
hall [1] 28/13	62/15 63/1	heavy [2]	honorably [1]
hallucinating	65/21 66/21	20/3 90/23	46/4
[1] 94/16	68/17 69/6	height [1]	hook [1] 77/9
hallucinations	71/5 72/1 72/6	69/23	hope [3] 17/7
[1] 94/13	72/6 74/7	hellos [1]	17/16 41/4
Hampton [1]	74/20 76/4	26/23	horizontal [2]
1/10	77/12 78/12	help [2] 52/1	60/24 60/25
hand [4]	80/17 80/24	56/8	hormones [2]
55/23 55/23	81/20 83/8	hence [2]	96/10 96/23
57/17 100/14	83/15 84/17	67/3 99/6	hospital [7]
handheld [1]	85/2 85/15	hepatobiliary	36/6 36/7
21/3	86/16 90/22	[1] 56/21	52/12 52/21
hands [2]	92/25 93/19	her [7] 4/21	83/20 102/22
21/19 35/14	95/5 95/10	20/22 22/6	103/15
hang [1] 31/1	95/12 95/22	22/25 29/8	Hospitals [1]
happen [5]	96/13 96/14	29/11 29/17	103/6
15/24 44/10	96/17 96/20	here [62] 4/6	hosted [1]
82/4 84/11	96/21 97/15	15/22 15/23	37/17
102/22	101/5 101/13	18/25 19/5	hot [10] 19/1
happened [4]	106/10	19/17 20/15	70/3 70/21
31/14 41/25	have [207]	21/22 22/16	74/13 75/11
46/9 87/1	haven't [6]	23/15 24/12	75/17 76/5
happening	10/2 25/18	25/4 26/25	79/18 84/20
[2] 35/8 73/13	44/18 44/20	27/3 27/24	84/21

H	HVS [1] 27/24	IEA [1] 24/7	89/16 89/24	65/17	interaction
hour [3] 16/15 38/5 69/7	hyperactive [1] 97/1	III [1] 59/21	inapplicable [1] 12/3	inflammation [1] 81/3	[2] 33/14 33/18
hourly [1] 16/14	hyperfunction ing [3] 95/16 96/18 96/19	image [8] 70/7 71/15 78/2 78/16 85/7 87/13 91/1 94/1	inception [1] 22/22	information [9] 6/1 6/7 32/11 35/8 56/18 61/6 65/3 99/8 100/6	interactions [1] 103/7
hours [5] 38/17 38/23 76/11 83/15 95/14	hyperthyroidism [1] 96/1	images [10] 58/23 59/24 60/12 62/8 68/21 68/22 81/13 81/23 97/7 102/10	incidentally [1] 87/7	infusion [1] 57/23	interest [2] 8/8 67/18
house [2] 17/13 101/15	hypo [1] 95/15	imagine [4] 11/5 61/2 66/15 77/5	included [1] 21/23	initial [2] 49/2 76/16	interested [5] 13/3 45/8 48/9 70/23 108/14
houses [1] 54/5	I	imaging [57] 55/3 55/5 55/7 55/8 55/12 55/15 56/2 56/12 56/14 56/15 56/25 57/24 59/3 59/11 60/1 60/13 61/17 62/17 63/4 63/5 63/14 68/24 71/22 72/12 72/15 74/18 75/24 76/1 77/18 79/1 79/2 80/14 80/19 81/7 81/7 83/10 83/14 83/22 84/3 84/18 85/24 86/13 86/15 87/8 93/4 95/8 95/12 95/13 96/8 96/12 96/20 99/17 99/18 99/21 100/4 100/17 101/8	including [6] 33/8 38/8 38/11 47/21 49/12 49/22	initiate [1] 89/1	interesting [1] 22/20
Houston [2] 22/17 105/3	I'd [1] 8/3	imagine [4] 11/5 61/2 66/15 77/5	increase [1] 87/18	initially [2] 68/10 74/2	interfere [3] 75/24 94/3 94/7
how [43] 7/12 7/18 8/25 9/1 9/18 10/7 13/25 15/21 16/12 18/15 26/17 26/19 32/11 33/14 33/15 33/16 35/12 36/25 37/3 37/3 37/12 37/25 38/3 41/17 41/25 46/8 47/16 48/10 57/7 59/24 64/11 70/12 74/21 75/2 82/19 84/1 87/22 88/25 89/1 89/15 92/19 97/12 100/19	I'll [9] 23/16 28/24 29/11 30/18 41/22 56/10 56/11 57/22 93/17	imaging [57] 55/3 55/5 55/7 55/8 55/12 55/15 56/2 56/12 56/14 56/15 56/25 57/24 59/3 59/11 60/1 60/13 61/17 62/17 63/4 63/5 63/14 68/24 71/22 72/12 72/15 74/18 75/24 76/1 77/18 79/1 79/2 80/14 80/19 81/7 81/7 83/10 83/14 83/22 84/3 84/18 85/24 86/13 86/15 87/8 93/4 95/8 95/12 95/13 96/8 96/12 96/20 99/17 99/18 99/21 100/4 100/17 101/8	increased [6] 66/2 79/5 81/20 83/12 92/24 95/22	inject [6] 59/24 69/9 77/20 80/12 85/16 95/8	intermediate [2] 57/24 58/6
however [2] 5/15 16/15	I'm [25] 11/14 13/3 14/21 18/11 18/14 19/7 20/7 22/1 23/10 26/9 28/17 29/24 30/1 30/14 34/18 34/25 40/15 40/18 42/24 43/16 47/1 47/15 105/8 106/11 106/21	imaging [57] 55/3 55/5 55/7 55/8 55/12 55/15 56/2 56/12 56/14 56/15 56/25 57/24 59/3 59/11 60/1 60/13 61/17 62/17 63/4 63/5 63/14 68/24 71/22 72/12 72/15 74/18 75/24 76/1 77/18 79/1 79/2 80/14 80/19 81/7 81/7 83/10 83/14 83/22 84/3 84/18 85/24 86/13 86/15 87/8 93/4 95/8 95/12 95/13 96/8 96/12 96/20 99/17 99/18 99/21 100/4 100/17 101/8	index [1] 37/1	injecting [1] 60/4	internal [2] 9/12 9/19
HPS [1] 13/15	I've [4] 7/19 13/1 30/6 40/7	imaging [57] 55/3 55/5 55/7 55/8 55/12 55/15 56/2 56/12 56/14 56/15 56/25 57/24 59/3 59/11 60/1 60/13 61/17 62/17 63/4 63/5 63/14 68/24 71/22 72/12 72/15 74/18 75/24 76/1 77/18 79/1 79/2 80/14 80/19 81/7 81/7 83/10 83/14 83/22 84/3 84/18 85/24 86/13 86/15 87/8 93/4 95/8 95/12 95/13 96/8 96/12 96/20 99/17 99/18 99/21 100/4 100/17 101/8	individual [8] 5/1 6/17 6/19 10/24 11/3 11/6 29/20 48/11	injection [2] 89/9 95/14	interpretation [1] 15/4
HR [2] 41/2 41/6	I-4 [2] 18/11 18/14	imaging [57] 55/3 55/5 55/7 55/8 55/12 55/15 56/2 56/12 56/14 56/15 56/25 57/24 59/3 59/11 60/1 60/13 61/17 62/17 63/4 63/5 63/14 68/24 71/22 72/12 72/15 74/18 75/24 76/1 77/18 79/1 79/2 80/14 80/19 81/7 81/7 83/10 83/14 83/22 84/3 84/18 85/24 86/13 86/15 87/8 93/4 95/8 95/12 95/13 96/8 96/12 96/20 99/17 99/18 99/21 100/4 100/17 101/8	individually [3] 29/5 29/16 74/23	Inn [1] 1/10	interpreting [1] 34/9
hug [1] 9/24	I123 [2] 95/9 95/11	imaging [57] 55/3 55/5 55/7 55/8 55/12 55/15 56/2 56/12 56/14 56/15 56/25 57/24 59/3 59/11 60/1 60/13 61/17 62/17 63/4 63/5 63/14 68/24 71/22 72/12 72/15 74/18 75/24 76/1 77/18 79/1 79/2 80/14 80/19 81/7 81/7 83/10 83/14 83/22 84/3 84/18 85/24 86/13 86/15 87/8 93/4 95/8 95/12 95/13 96/8 96/12 96/20 99/17 99/18 99/21 100/4 100/17 101/8	individuals [1] 12/1	input [1] 32/3	interviewing [1] 41/8
Huh [1] 18/12	I131 [5] 53/7 95/10 95/10 97/1 97/4	imaging [57] 55/3 55/5 55/7 55/8 55/12 55/15 56/2 56/12 56/14 56/15 56/25 57/24 59/3 59/11 60/1 60/13 61/17 62/17 63/4 63/5 63/14 68/24 71/22 72/12 72/15 74/18 75/24 76/1 77/18 79/1 79/2 80/14 80/19 81/7 81/7 83/10 83/14 83/22 84/3 84/18 85/24 86/13 86/15 87/8 93/4 95/8 95/12 95/13 96/8 96/12 96/20 99/17 99/18 99/21 100/4 100/17 101/8	induced [1] 92/25	inside [2] 27/22 60/3	interviews [1] 41/7
human [3] 4/16 13/23 85/16	ICRP [1] 11/11	imaging [57] 55/3 55/5 55/7 55/8 55/12 55/15 56/2 56/12 56/14 56/15 56/25 57/24 59/3 59/11 60/1 60/13 61/17 62/17 63/4 63/5 63/14 68/24 71/22 72/12 72/15 74/18 75/24 76/1 77/18 79/1 79/2 80/14 80/19 81/7 81/7 83/10 83/14 83/22 84/3 84/18 85/24 86/13 86/15 87/8 93/4 95/8 95/12 95/13 96/8 96/12 96/20 99/17 99/18 99/21 100/4 100/17 101/8	inefficient [1] 67/3	inspection [4] 20/3 20/6 27/4 27/15	investigation [1] 73/11
humans [1] 53/21	idea [11] 14/22 22/5 38/6 40/5 51/20 65/12 79/24 89/11 90/15 92/17 99/12	imaging [57] 55/3 55/5 55/7 55/8 55/12 55/15 56/2 56/12 56/14 56/15 56/25 57/24 59/3 59/11 60/1 60/13 61/17 62/17 63/4 63/5 63/14 68/24 71/22 72/12 72/15 74/18 75/24 76/1 77/18 79/1 79/2 80/14 80/19 81/7 81/7 83/10 83/14 83/22 84/3 84/18 85/24 86/13 86/15 87/8 93/4 95/8 95/12 95/13 96/8 96/12 96/20 99/17 99/18 99/21 100/4 100/17 101/8	infarct [3] 62/3 63/16 63/17	inspector [2] 21/2 21/3	involve [2] 48/15 55/10
husband [1] 23/12	identify [1] 84/23	imaging [57] 55/3 55/5 55/7 55/8 55/12 55/15 56/2 56/12 56/14 56/15 56/25 57/24 59/3 59/11 60/1 60/13 61/17 62/17 63/4 63/5 63/14 68/24 71/22 72/12 72/15 74/18 75/24 76/1 77/18 79/1 79/2 80/14 80/19 81/7 81/7 83/10 83/14 83/22 84/3 84/18 85/24 86/13 86/15 87/8 93/4 95/8 95/12 95/13 96/8 96/12 96/20 99/17 99/18 99/21 100/4 100/17 101/8	infarction [1] 57/3	inspectors [2] 24/5 52/23	involved [9] 8/23 13/11 34/12 57/15 58/10 65/16 85/2 101/1 101/8
		imaging [57] 55/3 55/5 55/7 55/8 55/12 55/15 56/2 56/12 56/14 56/15 56/25 57/24 59/3 59/11 60/1 60/13 61/17 62/17 63/4 63/5 63/14 68/24 71/22 72/12 72/15 74/18 75/24 76/1 77/18 79/1 79/2 80/14 80/19 81/7 81/7 83/10 83/14 83/22 84/3 84/18 85/24 86/13 86/15 87/8 93/4 95/8 95/12 95/13 96/8 96/12 96/20 99/17 99/18 99/21 100/4 100/17 101/8	infarctions [1] 57/2	instance [1] 102/2	involvement [2] 65/14 67/15
		imaging [57] 55/3 55/5 55/7 55/8 55/12 55/15 56/2 56/12 56/14 56/15 56/25 57/24 59/3 59/11 60/1 60/13 61/17 62/17 63/4 63/5 63/14 68/24 71/22 72/12 72/15 74/18 75/24 76/1 77/18 79/1 79/2 80/14 80/19 81/7 81/7 83/10 83/14 83/22 84/3 84/18 85/24 86/13 86/15 87/8 93/4 95/8 95/12 95/13 96/8 96/12 96/20 99/17 99/18 99/21 100/4 100/17 101/8	infarcts [1] 68/11	instead [5] 57/12 62/18 66/25 67/14 89/20	involving [2] 8/21 35/24
		imaging [57] 55/3 55/5 55/7 55/8 55/12 55/15 56/2 56/12 56/14 56/15 56/25 57/24 59/3 59/11 60/1 60/13 61/17 62/17 63/4 63/5 63/14 68/24 71/22 72/12 72/15 74/18 75/24 76/1 77/18 79/1 79/2 80/14 80/19 81/7 81/7 83/10 83/14 83/22 84/3 84/18 85/24 86/13 86/15 87/8 93/4 95/8 95/12 95/13 96/8 96/12 96/20 99/17 99/18 99/21 100/4 100/17 101/8	infection [3] 79/7 80/17 96/22	intact [1] 95/2	iodine [4] 93/22 93/24 95/9 95/18
		imaging [57] 55/3 55/5 55/7 55/8 55/12 55/15 56/2 56/12 56/14 56/15 56/25 57/24 59/3 59/11 60/1 60/13 61/17 62/17 63/4 63/5 63/14 68/24 71/22 72/12 72/15 74/18 75/24 76/1 77/18 79/1 79/2 80/14 80/19 81/7 81/7 83/10 83/14 83/22 84/3 84/18 85/24 86/13 86/15 87/8 93/4 95/8 95/12 95/13 96/8 96/12 96/20 99/17 99/18 99/21 100/4 100/17 101/8	infections [1] 81/19	intention [1] 31/12	ionization [1] 55/10
		imaging [57] 55/3 55/5 55/7 55/8 55/12 55/15 56/2 56/12 56/14 56/15 56/25 57/24 59/3 59/11 60/1 60/13 61/17 62/17 63/4 63/5 63/14 68/24 71/22 72/12 72/15 74/18 75/24 76/1 77/18 79/1 79/2 80/14 80/19 81/7 81/7 83/10 83/14 83/22 84/3 84/18 85/24 86/13 86/15 87/8 93/4 95/8 95/12 95/13 96/8 96/12 96/20 99/17 99/18 99/21 100/4 100/17 101/8	inflamed [1]		ionizing [1] 55/5
		imaging [57] 55/3 55/5 55/7 55/8 55/12 55/15 56/2 56/12 56/14 56/15 56/25 57/24 59/3 59/11 60/1 60/13 61/17 62/17 63/4 63/5 63/14 68/24 71/22 72/12 72/15 74/18 75/24 76/1 77/18 79/1 79/2 80/14 80/19 81/7 81/7 83/10 83/14 83/22 84/3 84/18 85/24 86/13 86/15 87/8 93/4 95/8 95/12 95/13 96/8 96/12 96/20 99/17 99/18 99/21 100/4 100/17 101/8			is [428]
		imaging [57] 55/3 55/5 55/7 55/8 55/12 55/15 56/2 56/12 56/14 56/15 56/25 57/24 59/3 59/11 60/1 60/13 61/17 62/17 63/4 63/5 63/14 68/24 71/22 72/12 72/15 74/18 75/24 76/1 77/18 79/1 79/2 80/14 80/19 81/7 81/7 83/10 83/14 83/22 84/3 84/18 85/24 86/13 86/15 87/8 93/4 95/8 95/12 95/13 96/8 96/12 96/20 99/17 99/18 99/21 100/4 100/17 101/8			ischemia [1] 62/7

I	joint [2] 36/8 36/10	27/3	79/6 79/9	25/21	48/2 53/17
isn't [2] 18/10 18/13	Jose [1] 27/9	Kathleen [1] 2/7	79/10 79/21	law [4] 46/8 48/18 50/1	letting [1] 51/5
isotope [1] 101/19	Joseph [1] 2/6	Kathy [1] 31/15	82/6 83/8	50/3	level [3] 33/18 50/8 76/1
isotopes [2] 54/16 56/1	judgment [1] 45/4	Keaton [1] 23/6	83/11 83/15	lawsuit [2] 4/5 4/11	levels [2] 14/6 97/3
issue [3] 7/12 31/21 34/17	July [1] 4/15	keep [6] 50/3	84/21 85/25	lawyers [2] 43/11 48/1	Lewy [4] 94/8 94/19 94/24 95/1
issued [2] 4/14 49/1	jurisdiction [2] 48/17 48/21	76/17 85/13	86/1 86/12	lay [1] 88/10	liability [1] 104/4
issues [10] 12/23 12/24 18/22 20/16 31/10 31/13 31/13 45/21 47/19 106/3	just [72] 8/11 14/22 15/7 16/9 16/14 19/2 19/2 20/8 20/8 21/17 27/2 28/18 30/8 30/9 30/13 32/8 32/8 32/18 32/18 33/23 35/21 36/23 37/11 42/9 42/15 44/23 47/17 48/8 51/20 54/24 55/14 59/6 59/7 60/7 60/11 60/11 61/3 63/12 64/10 64/20 65/8 65/20 66/9 67/22 68/20 70/14 71/23 73/1 73/6 73/25 75/22 78/19 84/1 84/13 86/25 87/1 87/3 88/22 91/11 91/24 92/10 92/14 96/2 96/10 97/20 97/23 99/14 100/9 101/19 102/5 102/16 103/22	89/5 91/21 101/16	86/14 86/16 86/19 88/7 89/19 91/2 91/6 92/19 94/4 94/8 96/22 96/23 98/4 98/5 99/7 99/21 99/24 100/3 101/16 101/20 102/14 102/15	4/10 4/11 4/11 13/3 13/4	licensed [8] 4/19 33/2 33/11 33/19 39/2 42/9 42/12 47/15 licensees [1] 15/14 licenses [2] 17/5 17/6 licensing [1] 15/10 licensure [1] 31/17 lied [1] 44/18
it [359]	kid [1] 79/16	Ken [1] 21/1	101/20 102/14	lead [6] 4/3 4/10 4/11 4/11 13/3 13/4	leads [1] 67/3
it's [167]	kidding [1] 20/8	kept [2] 84/11 84/11	102/15	leak [1] 98/19	leakage [1] 98/22
items [1] 10/7	kidneys [3] 69/12 69/12 79/13	Kerr [1] 24/4	kinds [1] 96/4	leaking [1] 98/25	learned [1] 30/6
its [8] 22/22 29/4 39/19 59/20 65/22 96/22 96/24 100/12	kind [98] 9/9 14/6 14/7 20/15 21/19 22/20 27/20 31/16 32/23 43/9 46/13 48/13 51/20 51/23 51/24 52/2 52/3 52/5 52/20 52/24 53/15 53/18 53/21 53/23 54/17 55/25 56/3 56/4 56/7 56/23 57/14 57/16 57/24 58/15 59/22 60/6 60/9 61/3 63/6 63/15 64/24 65/5 65/19 65/22 66/15 67/10 67/13 67/24 67/25 68/11 68/16 68/23 68/23 71/10 71/21 71/24 73/12 74/7 74/20 75/1 76/3 77/4 78/11 78/20	kid [1] 79/16	Kline [2] 23/22 25/7	learned [1] 30/6	learning [2] 30/6 30/15
itself [4] 11/1 50/13 74/3 96/1	kind [98] 9/9 14/6 14/7 20/15 21/19 22/20 27/20 31/16 32/23 43/9 46/13 48/13 51/20 51/23 51/24 52/2 52/3 52/5 52/20 52/24 53/15 53/18 53/21 53/23 54/17 55/25 56/3 56/4 56/7 56/23 57/14 57/16 57/24 58/15 59/22 60/6 60/9 61/3 63/6 63/15 64/24 65/5 65/19 65/22 66/15 67/10 67/13 67/24 67/25 68/11 68/16 68/23 68/23 71/10 71/21 71/24 73/12 74/7 74/20 75/1 76/3 77/4 78/11 78/20	kind [98] 9/9 14/6 14/7 20/15 21/19 22/20 27/20 31/16 32/23 43/9 46/13 48/13 51/20 51/23 51/24 52/2 52/3 52/5 52/20 52/24 53/15 53/18 53/21 53/23 54/17 55/25 56/3 56/4 56/7 56/23 57/14 57/16 57/24 58/15 59/22 60/6 60/9 61/3 63/6 63/15 64/24 65/5 65/19 65/22 66/15 67/10 67/13 67/24 67/25 68/11 68/16 68/23 68/23 71/10 71/21 71/24 73/12 74/7 74/20 75/1 76/3 77/4 78/11 78/20	knew [1] 26/16	learned [1] 30/6	licensees [1] 15/14 licenses [2] 17/5 17/6 licensing [1] 15/10 licensure [1] 31/17 lied [1] 44/18
J	justification [1] 48/1	Ken [1] 21/1	known [1] 45/20	leave [1] 63/12	life [8] 6/16 58/19 58/25 59/13 69/6 77/12 85/21 96/4
Jacksonville [1] 27/16	K	Ken [1] 21/1	L	leaves [2] 16/2 73/14	77/12 85/21 96/4
jails [1] 9/3	Kasetti [1]	Ken [1] 21/1	lag [1] 103/10	left [7] 21/13 62/1 63/14 66/14 66/18 66/23 96/7	lifted [1] 48/21
James [4] 2/11 16/19 26/15 30/8		Ken [1] 21/1	laid [1] 13/1	legal [2] 42/14 48/1	ligated [1] 98/9
Janet [1] 27/18		Ken [1] 21/1	landed [1] 78/15	legislature [1] 49/25	lights [9] 71/16 72/22 73/20 74/11 74/13 75/10 75/17 85/11 92/20
Jarrett [1] 23/2		Ken [1] 21/1	landings [1] 83/18	legs [2] 13/4 76/13	like [226]
Jennifer [2] 2/6 30/5		Ken [1] 21/1	language [5] 31/23 32/16 33/16 50/6 50/12	lesion [1] 75/16	likely [2] 48/19 50/10
job [5] 23/14 23/18 25/8 25/8 41/17		Ken [1] 21/1	large [2] 1/20 87/13	less [1] 50/22	limits [2] 6/24 7/2
John [2] 23/12 23/23		Ken [1] 21/1	last [7] 17/23 25/10 28/17 31/22 73/6 80/14 85/22	let [5] 6/12 8/18 19/2 34/14 50/1	line [4] 4/3 12/24 38/11
Joined [1] 4/1		Ken [1] 21/1	late [1] 19/5	let's [5] 21/6 27/8 41/1 95/3 97/7	
Joins [1] 18/20		Ken [1] 21/1	later [5] 22/24 23/21 23/21 27/1 83/15	letter [3] 6/6	
		Ken [1] 21/1	Laughter [1]		

L	18/10 18/13	54/4 54/22	60/3	30/2 30/2	me [19] 6/13
line... [1]	24/21 27/18	56/17 57/11	made [3]	30/13 32/2	8/18 10/3
43/23	27/20 28/6	57/13 57/15	6/11 6/19	32/21 38/3	16/22 19/2
linear [1]	37/25 46/5	58/9 60/7 63/1	22/12	58/5	19/3 19/15
23/24	59/13 76/11	65/25 73/17	mail [1]	map [2]	21/13 23/17
lines [1]	76/12 77/12	76/19 78/18	14/18	53/21 86/16	23/21 25/2
45/17	78/1 82/1 82/6	88/23 88/24	mailing [1]	Mark [7] 2/2	28/25 41/4
list [1] 41/2	95/5	94/3 99/10	6/6	2/4 18/20	43/16 51/5
listed [2]	long-distance	99/23 99/25	main [7]	30/11 30/12	101/10 104/18
47/8 103/21	[1] 82/6	100/6	57/22 58/15	31/20 31/25	106/20 106/22
lists [1] 46/6	long-time [1]	lots [1] 43/24	60/15 64/12	market [1]	meal [2]
lit [1] 75/6	27/18	love [2]	69/3 99/9	41/18	97/12 97/19
literally [1]	longer [4]	53/25 55/3	103/15	Mary [5] 20/1	mean [14]
83/25	19/20 58/25	low [8] 14/10	mainly [6]	23/8 23/9	10/10 10/20
little [34]	62/5 81/2	14/10 57/10	21/23 56/19	23/10 23/17	12/9 13/4
7/15 14/5	longest [1]	58/2 58/3 63/5	67/6 69/1 79/6	mass [2]	21/16 26/1
18/24 19/1	69/4	64/12 96/20	99/22	98/12 98/14	36/13 37/1
19/13 19/13	look [17] 4/3	lower [2] 7/7	major [1]	massive [1]	87/23 89/2
19/25 20/1	8/8 8/13 26/11	78/13	23/12	14/18	89/22 89/25
20/14 20/17	46/7 47/1	Lugol [1]	make [10]	matched [1]	100/25 105/21
31/11 37/11	47/14 49/23	93/21	17/24 20/18	62/18	meaning [2]
43/12 45/25	57/7 61/2 61/4	lunch [3]	26/19 26/20	material [3]	80/2 90/19
49/9 55/12	65/14 67/23	18/2 18/10	27/21 29/7	9/22 21/4	meaningful
58/25 61/7	67/24 84/18	18/13	64/16 64/22	37/25	[1] 88/16
64/25 65/6	87/4 104/18	lung [8]	88/1 94/4	materials [1]	means [11]
73/3 73/5 75/2	looked [3]	69/21 70/2	making [5]	13/10	33/7 33/8 49/3
75/10 77/21	17/1 20/9 26/4	70/3 72/7 76/6	6/23 20/7	matter [6]	49/17 61/9
79/18 85/15	looking [16]	78/6 78/10	49/18 50/22	71/23 82/17	61/12 62/10
86/8 89/6 90/8	4/9 5/5 8/15	87/4	53/13	90/17 90/18	62/12 68/18
90/9 90/10	13/19 13/25	lungs [5]	malignancy	91/9 91/9	76/8 96/21
90/19 103/4	31/1 35/10	76/14 77/11	[1] 96/15	mature [1]	meant [1]
live [1] 55/22	66/13 75/19	77/23 78/3	management	25/14	20/12
liver [3] 72/6	76/4 76/9 78/5	91/20	[3] 36/1 36/7	may [23]	measure [1]
97/8 99/4	79/5 97/6	lutecium [1]	36/13	4/16 12/18	97/12
LNT [1] 11/24	105/1 106/7	72/10	manager [9]	20/11 31/14	measures [1]
loaded [1]	looks [13]	lutetium [4]	20/23 23/4	40/4 44/23	65/3
21/18	25/13 25/25	71/11 71/17	24/21 27/4	47/15 49/10	mechanisms
loaf [2] 60/20	62/17 64/24	73/8 74/12	27/9 27/12	49/11 49/16	[2] 10/19
61/3	68/2 77/4	lymph [8]	27/14 27/17	52/4 94/20	37/21
lobe [2]	78/21 79/9	70/11 70/19	41/15	102/8 104/14	med [2] 20/2
94/14 94/25	79/14 83/25	71/5 73/15	managers [2]	104/14 104/15	38/15
lobes [2]	92/22 95/17	73/17 74/16	19/25 24/18	104/16 104/16	medical [9]
91/13 91/13	96/19	75/3 76/5	maneuvering	104/20 105/2	4/19 4/22 4/25
locally [1]	loosening [1]	lymphomas	[1] 43/22	105/22 105/23	8/12 34/22
74/3	81/11	[1] 88/10	Manning [1]	106/13	35/5 35/6 35/6
locates [1]	lose [1] 91/22	M	2/12	maybe [11]	55/1
81/23	losing [1]	M.D [3] 2/2	many [18]	12/7 28/6 31/6	medications
location [1]	47/25	2/3 2/6	12/12 14/24	32/5 32/13	[4] 67/19
5/21	lot [27] 6/11	M.Ed [1] 2/7	14/24 16/15	42/24 45/9	92/10 92/13
locations [1]	7/24 20/13	M.P [1] 2/2	17/6 23/7 23/7	65/13 90/9	94/6
86/11	35/16 35/25	machine [1]	23/7 23/25	98/15 106/11	medicine [16]
long [16]	49/25 53/19		24/8 27/10	mc [1] 53/8	37/23 46/19

M	106/23	military [9]	money [2]	41/14	102/10
medicine...	metabolic [1]	46/1 46/4 46/6	12/8 16/7	mouth [1]	multiples [1]
[14] 51/7	79/8	46/10 46/10	monitor [1]	77/9	88/14
51/9 51/21	metabolism	47/1 47/5 47/8	64/21	mouths [1]	multiplier [1]
51/23 51/25	[1] 96/24	84/9	month [2]	10/12	59/23
55/7 55/11	metals [1]	millicuries [1]	19/6 41/5	move [2]	muscle [3]
55/24 56/8	100/11	97/4	months [1]	41/17 104/8	64/7 67/1 68/3
58/16 95/6	metastases	millirem [3]	83/20	moved [1]	music [1]
99/12 99/13	[5] 70/5 72/6	7/4 7/4 7/6	morbidity [1]	5/17	20/19
100/2	85/17 87/14	mind [3]	6/21	movement	must [6] 6/19
meet [2] 38/7	87/15	40/16 40/21	more [32]	[2] 86/19	6/23 6/25 8/7
38/9	metastasis	85/13	12/24 17/21	94/10	8/20 33/11
meeting [13]	[2] 72/7 75/8	Mine [1]	19/1 40/16	movements	my [23] 15/3
4/1 13/16	metastatic	104/23	48/19 50/10	[1] 92/4	17/22 17/23
18/20 20/10	[10] 69/24	mini [2]	55/3 56/11	moving [1]	17/23 17/23
27/25 31/4	71/20 73/10	19/13 19/13	67/18 69/18	65/1	19/16 22/21
31/16 31/19	73/19 73/21	minimum [2]	75/13 85/9	MPI [4] 57/1	23/15 25/13
31/22 32/7	74/6 74/18	38/12 44/9	86/9 89/18	58/10 64/5	25/19 25/24
34/14 104/11	74/19 79/7	minors [1]	89/19 89/20	67/12	29/23 31/25
104/15	85/18	26/3	89/24 90/4	MQA [5] 15/4	32/23 33/10
meeting's [1]	metatarsal	minute [4]	90/11 90/13	15/8 31/17	38/7 38/18
107/3	[1] 81/23	23/19 51/11	91/24 93/8	41/21 41/22	38/19 82/22
meetings [2]	method [1]	58/20 76/22	94/11 98/19	MQAs [1]	88/6 95/3
104/22 105/24	6/22	minute's [1]	99/8 99/17	42/1	104/19 108/8
melanoma	methods [1]	38/2	99/19 99/19	MRI [7] 55/9	Myers [2]
[1] 69/22	12/3	minutes [4]	99/20 99/23	80/20 80/22	27/4 27/15
melts [1]	mets [5] 80/3	31/12 40/22	100/16 103/7	82/14 82/17	myocardial
100/14	80/7 80/8	59/1 69/7	morning [1]	82/21 87/13	[2] 56/9 57/23
member [2]	87/20 87/20	misdemeanor	18/25	MRIs [1]	myocardium
31/10 31/13	Meyer [3]	[2] 46/6 47/9	Morphine [1]	99/20	[1] 57/4
Member/Emerging [1]	1/19 108/5	miss [6]	46/23	MS [3] 2/3	N
31/10	108/19	30/14 70/13	mortality [1]	2/7 19/5	name [4]
members [9]	Miami [1]	75/17 81/7	6/20	much [15]	17/23 17/23
2/1 9/4 12/16	27/10	81/8 87/17	most [14]	25/15 30/6	22/11 25/10
15/16 15/19	microseconds	missed [1]	11/13 11/18	30/6 32/4 32/5	named [1]
18/22 29/5	[1] 19/7	82/9	20/8 42/3	42/25 43/12	23/24
31/3 34/24	Mid [2]	missing [2]	55/20 58/14	55/14 60/8	names [4]
Members/Emerging [1]	104/16 104/16	34/25 106/21	68/2 69/2 69/4	64/4 69/17	29/5 29/18
18/22	middle [5]	Mississippi	69/14 75/14	70/16 80/7	80/24 82/24
membrane	28/10 28/11	[1] 24/25	80/15 89/17	85/9 102/15	Nancy [1]
[1] 73/2	28/22 37/15	Mitchell [1]	91/4	Mud [1]	22/17
memory [5]	91/16	27/4	mostly [1]	24/25	national [5]
27/21 91/18	might [10]	modified [2]	20/3	MUGA [4]	37/1 37/16
91/23 94/10	9/15 9/21	32/11 34/3	moth [1]	57/6 57/10	38/18 39/13
94/15	11/15 24/17	molecule [1]	78/21	57/12 64/8	48/15
Men [1]	28/16 28/17	59/11	motion [3]	multiple [14]	nationally [1]
28/21	43/23 44/10	molecules [1]	61/16 64/25	70/4 72/3 72/6	7/1
mentioning	48/24 89/24	77/22	66/24	77/17 78/2	natural [3]
[1] 6/9	Mike [6]	moment [1]	motor [3]	78/19 78/20	55/21 92/14
mess [1]	21/12 23/4	35/1	91/15 91/17	78/23 83/18	100/13
	26/8 27/25	Monday [1]	91/22	85/2 86/2	nature [1]
	28/10 28/12	105/2	Motorola [1]	88/18 96/13	

N	20/14 42/8	nodes [7]	43/12 46/5	73/22 74/1	94/25
nature... [1]	42/18 45/2	70/12 70/19	47/16 49/13	74/8 74/25	occur [1]
85/1	67/19 67/23	71/5 73/15	50/10 50/17	76/19 85/8	12/13
NCRP [4]	85/4 99/25	73/17 74/16	51/22 52/25	88/6 92/11	OCR [1]
11/11 34/19	100/3 101/21	74/22	54/2 54/22	94/16 95/3	36/18
34/25 35/7	103/9	nodule [3]	55/9 61/11	95/9 98/10	October [2]
necessarily	newborn [1]	96/6 96/7	62/12 63/17	98/21 99/21	19/12 108/15
[3] 10/14	99/4	96/13	64/17 66/7	101/17 102/4	odd [2] 45/25
15/15 21/21	newborns [1]	nodules [1]	66/9 67/10	102/11 103/13	48/11
necessary [1]	99/1	96/13	68/6 70/24	106/16 106/22	off [12] 19/11
33/3	newer [8]	noise [1]	72/8 72/19	106/22	43/20 55/12
neck [5]	57/14 60/6	69/13	73/18 77/13	nuclear [23]	59/25 71/19
69/22 70/15	71/9 73/1 85/3	non [3] 12/14	77/24 78/14	19/25 20/2	81/2 82/21
70/16 71/4	90/6 100/16	12/15 12/17	78/19 80/18	21/14 23/11	84/13 91/20
75/22	100/17	non-radiation	84/7 84/7	25/6 37/23	98/17 98/21
necrosis [2]	next [12]	[3] 12/14	84/20 84/24	38/15 46/18	104/18
71/5 81/10	17/8 17/25	12/15 12/17	85/4 85/19	51/7 51/8	offense [3]
need [11]	19/6 28/14	none [1] 46/3	87/11 87/20	51/21 51/23	43/3 43/4
28/15 49/23	29/18 31/18	nonmedical	88/11 88/13	51/25 53/6	43/10
51/24 59/2	32/7 34/14	[2] 4/7 52/4	90/3 90/12	55/6 55/11	offer [1]
76/1 87/11	41/5 58/21	normal [18]	91/12 91/17	55/24 56/8	73/22
87/12 99/6	59/20 104/11	60/18 61/15	92/12 102/8	58/16 95/6	offered [2]
101/18 106/21	nice [8] 34/3	62/19 65/8	102/16 102/25	99/12 99/13	23/17 30/13
106/25	61/5 66/19	66/11 66/17	104/17 105/4	100/2	office [8]
needed [1]	66/25 70/6	79/9 79/14	106/11 108/10	nuclei [1]	5/18 27/10
33/21	74/10 77/8	79/16 86/17	Notary [1]	92/20	27/15 28/7
needs [2]	86/17	90/16 92/21	1/20	number [10]	36/4 38/8 50/8
12/5 23/22	nicely [1]	93/1 93/12	note [2] 13/1	17/4 17/5	50/9
negative [1]	15/21	93/13 95/14	34/15	22/14 38/4	official [2]
84/4	Nicholas [3]	95/17 97/10	notes [1]	46/2 46/7	19/11 29/24
nervous [3]	2/3 40/14	normalization	108/9	48/10 88/16	offline [1]
19/1 81/1 84/6	63/11	[1] 88/1	nothing [2]	89/14 103/20	31/21
net [1] 48/6	Nick [1]	normalizing	83/4 95/18	numbers [5]	often [2]
NetSpot [1]	40/15	[1] 87/25	noticed [1]	42/1 55/12	98/20 100/19
71/10	nightmare [1]	normally [2]	52/22	61/20 82/21	oh [7] 9/9
network [1]	50/24	63/25 97/17	November [1]	87/24	15/7 23/19
51/18	NMTB [1]	not [82] 5/11	35/4	numerical [1]	29/9 30/25
neuroendocri	39/21	5/11 6/11 8/12	now [51]	12/3	45/15 95/3
ne [4] 71/13	NMTCB [1]	8/18 11/2	5/19 5/25 6/6	Nurse [1]	okay [22] 5/1
71/15 71/22	47/1	11/14 13/8	7/16 16/19	51/17	11/8 12/12
72/2	no [19] 4/8	14/17 15/1	18/5 18/21	O	13/14 13/24
neurologists	9/16 17/22	15/2 15/14	26/1 26/18	obstruction	14/14 14/25
[1] 86/11	20/8 20/19	19/7 21/20	39/1 41/3 45/8	[3] 98/7 98/13	18/1 18/21
neurology [1]	29/24 31/2	22/1 22/12	50/7 54/5	98/17	22/10 23/23
56/14	41/12 47/6	24/5 25/14	57/17 57/18	obvious [1]	34/17 37/9
never [10]	62/2 62/4	28/17 28/24	59/6 62/4	71/6	40/14 51/15
21/15 21/18	68/15 71/1	32/13 33/3	62/18 62/20	obviously [4]	88/12 102/19
24/13 53/9	78/16 81/2	33/5 33/12	62/22 66/6	5/12 65/21	104/8 104/11
53/15 57/16	91/1 92/17	34/15 34/18	67/10 67/15	86/11 93/18	105/10 105/18
97/22 99/4	93/19 104/10	35/18 35/20	67/18 67/23	occipital [3]	106/18
102/23 103/20	node [3] 75/3	38/22 42/10	70/8 70/9	91/13 94/14	old [3] 26/11
new [11]	75/4 76/5	42/11 42/24	71/24 72/9		36/18 68/11

O	77/16 78/19 80/15 80/15 80/23 82/25 83/5 83/18 84/16 84/20 85/24 86/8 87/10 88/6 88/8 88/22 90/1 90/7 91/4 91/8 91/25 92/2 95/24 96/7 96/9 98/15 98/16 100/10 101/7 103/13 103/18 106/10	10/11 ORANGE [1] 108/3 order [5] 8/19 49/1 58/9 101/22 103/2 ordered [2] 102/7 103/1 ordering [1] 103/16 orders [1] 100/21 organ [2] 9/13 10/15 originally [1] 70/9 Orlando [1] 24/21 osteomyelitis [4] 80/16 81/12 81/25 82/3 other [51] 4/7 5/2 5/3 6/3 8/11 8/12 9/22 26/22 27/12 27/25 32/17 33/4 33/25 36/4 38/9 38/19 39/8 44/12 45/20 45/21 45/25 46/4 46/15 48/16 48/20 57/19 59/14 64/15 64/20 65/3 65/13 70/10 70/14 71/4 72/20 72/21 75/18 81/7 81/8 86/7 86/23 86/23 88/24 91/1 91/4 92/18 104/9 104/9 104/21 106/7 106/19 otherwise [1] 92/17 our [58] 5/10 5/16 7/17	15/13 16/5 16/12 16/22 24/1 24/3 24/5 25/9 26/8 27/2 27/18 28/3 30/12 33/12 37/15 39/5 43/2 46/6 50/9 51/8 52/11 52/13 52/25 53/6 53/11 55/3 55/12 55/20 56/2 59/10 59/15 59/24 60/13 64/10 65/7 68/8 69/2 70/7 72/5 74/18 75/24 76/1 79/2 80/19 83/9 84/18 85/22 88/17 89/19 96/12 99/17 101/1 101/7 102/17 103/14 ours [2] 84/20 99/22 out [58] 6/6 6/12 7/12 7/19 12/12 12/16 13/1 14/4 14/6 14/21 17/3 29/19 35/16 36/1 36/23 40/23 40/24 40/25 43/9 43/23 47/16 48/4 48/10 52/1 56/8 59/6 62/21 63/19 64/18 66/16 67/9 67/19 70/12 70/17 71/17 72/18 73/1 73/6 73/8 75/3 77/12 77/13 78/21 88/10 91/25 92/8 96/1 96/10 96/16 97/15 97/21	97/25 98/8 100/1 100/17 103/18 105/17 105/24 outcome [1] 108/14 outline [1] 8/2 Outpatient [1] 102/23 outside [2] 9/21 16/6 over [25] 13/22 13/23 17/1 17/2 18/15 23/15 24/8 26/25 27/3 28/17 29/3 31/5 42/23 55/24 59/14 62/1 62/2 68/10 77/25 80/24 88/2 89/23 94/6 95/3 95/23 overall [1] 89/21 oversee [2] 16/5 16/17 overview [1] 51/21 own [5] 15/24 39/19 52/12 96/25 102/17	58/11 80/24 81/4 82/7 82/25 83/4 84/14 85/21 97/20 pair [1] 78/2 pancreatic [2] 69/21 98/12 pandemic [1] 38/8 panel [1] 88/19 paper [1] 43/13 papers [1] 106/20 parachute [1] 83/19 Paragraph [1] 4/16 paratrooper [1] 83/18 parietal [1] 91/13 Park [1] 1/11 Parkinson's [10] 92/5 92/7 92/8 92/12 92/14 92/24 92/25 93/4 93/20 94/9 Parm [1] 28/8 part [13] 8/22 9/1 11/9 17/14 30/2 30/7 30/19 32/6 33/4 44/5 89/3 89/17 103/19 participate [1] 30/16 particles [1] 100/16 particular [9] 42/17 43/10 43/10 43/25 46/7 81/15 83/17 83/19 101/6	
				P		
				p.m [7] 1/17 1/17 18/18 18/19 51/13 51/14 107/5 packaged [1] 34/8 packs [1] 36/21 PAGE [1] 3/2 paggers [1] 103/20 Paget's [1] 84/16 pain [9]		

P	80/1 80/3 83/1 94/10 97/20	64/22 82/8 95/24 95/25 96/14 98/5	63/3 63/5 63/9 65/8 69/1 69/2 70/8 75/14 85/5 85/7 85/8 86/24 87/3 88/6 91/11 100/24	63/2 physiologic [1] 75/22 physiology [1] 77/24 pick [7] 82/18 82/21 84/17 84/19 87/21 97/5 101/20 picture [8] 25/14 29/10 29/11 31/5 58/6 60/19 106/24 107/1 pictures [5] 22/15 25/13 28/15 31/2 31/2 Pie [1] 24/25 piece [2] 33/13 43/13 pieces [1] 17/7 pills [2] 46/2 46/7 Pines [1] 59/14 pinkie [1] 84/10 pinpoint [1] 78/11 pituitary [1] 87/9 place [6] 17/7 21/16 28/23 31/6 38/23 88/6 places [2] 32/18 54/4 Plains [2] 53/24 54/5 planar [1] 68/21 plant [4] 4/12 5/20 21/14 21/17 plants [1] 53/6 plate [1] 79/20 plates [1] 79/17	Plaxton [3] 2/3 51/4 63/11 play [1] 50/16 plays [1] 48/10 please [4] 26/20 30/17 34/16 106/17 plot [1] 61/7 plumbing [1] 65/25 plus [1] 48/6 podiatrists [1] 37/4 point [6] 9/12 11/17 11/25 23/17 47/22 103/22 pointing [1] 86/21 policy [1] 50/17 Polk [1] 27/11 poor [1] 63/1 pop [1] 87/3 popular [2] 22/6 28/21 population [3] 10/23 10/23 12/18 portion [1] 77/1 posed [2] 4/23 6/18 position [5] 16/20 21/20 41/3 41/4 41/8 positive [1] 78/17 positives [1] 58/5 possible [1] 18/9 possibly [1] 42/12 post [2] 80/21 98/16 post-surgical [1] 80/21 posterior [1]
parties [2] 108/11 108/12	pattern [1] 86/3	percentages [1] 95/23	Peterson [1] 2/6	physiologic [1] 75/22	Plaxton [3] 2/3 51/4 63/11
partners [1] 24/2	patterns [2] 91/5 91/24	perfused [3] 60/14 61/10 62/10	Ph.D [2] 2/7 12/6	physiology [1] 77/24	play [1] 50/16
parts [4] 17/13 49/22 51/3 67/1	Paul [1] 27/15	perfusion [11] 56/9 56/25 57/18 59/8 59/11 60/18 61/5 61/14 63/14 76/9 78/8	Ph.D.'s [1] 19/24	pick [7] 82/18 82/21 84/17 84/19 87/21 97/5 101/20	plays [1] 48/10
pass [1] 10/8	Pavlick [1] 27/16	perhaps [4] 12/6 34/2 34/13 45/9	pharmacist [1] 60/2	picture [8] 25/14 29/10 29/11 31/5 58/6 60/19 106/24 107/1	please [4] 26/20 30/17 34/16 106/17
passed [3] 23/25 27/19 28/4	pay [2] 39/8 49/3	periarticular [1] 83/15	pharmacy [3] 46/2 59/13 59/15	pictures [5] 22/15 25/13 28/15 31/2 31/2	plot [1] 61/7
past [1] 42/7	PC [1] 16/23	period [2] 50/1 94/6	phase [5] 59/21 80/11 80/13 82/12 84/4	pie [1] 24/25	plumbing [1] 65/25
pathologist [2] 32/17 33/17	PDA [1] 54/19	periodic [1] 56/1	Phillip [2] 28/5 32/20	piece [2] 33/13 43/13	point [6] 9/12 11/17 11/25 23/17 47/22 103/22
pathology [1] 31/23	peak [1] 67/1	permission [1] 18/23	Phillips [2] 21/12 28/1	pieces [1] 17/7	pointing [1] 86/21
Patibulary [1] 97/5	pelvic [1] 76/3	permissive [2] 49/14 49/15	phone [3] 26/19 63/10 104/19	pills [2] 46/2 46/7	policy [1] 50/17
patient [50] 60/4 60/5 60/7 60/9 61/15 62/4 62/11 62/15 65/9 65/15 66/21 68/14 70/2 70/11 72/1 75/5 77/14 78/12 78/23 79/14 80/6 80/8 81/4 81/13 81/14 83/7 83/17 86/17 86/18 86/22 86/24 87/6 89/1 89/8 90/24 92/18 92/21 92/22 92/24 92/25 93/2 93/19 94/24 95/21 96/13 96/17 96/17 96/21 98/8 102/13	pelvis [1] 80/9	permit [1] 5/12	photo [1] 59/22	Pines [1] 59/14	poor [1] 63/1
patients [17] 52/13 58/7 59/2 59/10 59/17 61/13 64/15 67/6 68/25 72/25 74/25 79/23	penetration [1] 85/15	permitting [2] 15/10 41/6	photon [2] 58/15 63/4	pinpoint [1] 78/11	pop [1] 87/3
	people [43] 4/4 8/25 10/3 15/5 16/14 16/16 25/9 26/16 26/19 32/22 33/15 39/2 42/11 52/4 52/21 53/5 53/7 53/15 56/20 57/15 57/18 57/25 58/8 58/18 61/22 66/1 68/3 68/6 74/4 76/12 76/23 77/1 77/3 78/18 80/25 83/1 91/16 92/4 92/6 94/12 95/25 97/6 99/11	person [18] 27/21 27/23 41/22 43/7 43/24 43/25 44/8 45/5 46/1 46/19 47/15 48/25 52/16 62/19 68/16 77/5 80/17 90/22	photons [3] 59/23 59/25 60/3	pituitary [1] 87/9	popular [2] 22/6 28/21
	peoples' [1] 90/10	person's [3] 4/8 16/21 83/12	photos [2] 25/4 25/5	place [6] 17/7 21/16 28/23 31/6 38/23 88/6	population [3] 10/23 10/23 12/18
	per [4] 10/24 11/14 17/4 38/5	personal [1] 33/6	physical [1] 28/23	plains [2] 53/24 54/5	portion [1] 77/1
	percent [10] 55/4 55/10 55/11 61/21	PET [22] 52/13 52/15 52/16 58/18 58/24 63/3	physician [2] 33/25 34/10	places [2] 32/18 54/4	posed [2] 4/23 6/18
			physicians [3] 33/4 36/4 100/20	Plains [2] 53/24 54/5	position [5] 16/20 21/20 41/3 41/4 41/8
			physicist [2] 21/3 23/12	planar [1] 68/21	positive [1] 78/17
			physicists [1] 20/1	plant [4] 4/12 5/20 21/14 21/17	positives [1] 58/5
			physics [1]	plants [1] 53/6	possible [1] 18/9
				plate [1] 79/20	possibly [1] 42/12
				plates [1] 79/17	post [2] 80/21 98/16
					post-surgical [1] 80/21
					posterior [1]

P	president [1] 53/11	problems [10] 20/16 56/10 57/18 57/19 66/1 94/10 94/11 94/15 94/16 97/20	prostate [20] 1/20 34/20 71/1 72/12 72/19 72/24 72/25 73/2 73/4 73/9 73/13 73/15 74/2 74/3 75/5 75/9 75/24 79/21 79/23 79/25 101/8 102/3	1/20 34/20 publish [2] 6/10 11/16 pull [3] 17/14 20/12 29/19 pulmonary [5] 56/19 76/9 78/15 78/17 78/19 pumping [1] 57/8 pumps [1] 63/22 purpose [3] 4/19 5/2 6/14 purposes [1] 6/25 put [14] 9/7 13/21 38/12 44/9 49/19 50/1 50/5 51/16 62/14 67/8 72/16 88/8 96/2 100/13 putting [3] 14/21 43/20 98/14 pyrophosphate [1] 68/9	47/3 51/6 100/5 quick [4] 40/22 76/20 76/23 95/4 quite [3] 56/17 87/13 98/21
posterior... [1] 77/18 postulated [1] 33/24 potassium [5] 54/11 54/12 63/22 63/23 93/22 power [3] 21/14 25/6 53/6 practice [7] 4/21 43/8 43/15 44/2 44/4 45/11 46/18 practices [1] 35/6 practitioner [5] 4/20 4/24 33/3 33/12 33/19 Practitioners [1] 51/18 pre [1] 105/24 pre-meetings [1] 105/24 predecessor [1] 22/21 prefer [1] 105/25 preferred [1] 57/9 prep [3] 88/25 89/9 90/2 prepared [1] 29/17 prepping [1] 90/4 present [3] 2/1 32/16 78/18 presentation [3] 14/5 20/18 29/8 presentations [1] 13/17 preserved [1] 91/15	pretty [10] 45/23 46/17 76/23 78/22 79/14 82/20 84/15 95/4 98/3 98/24 prevents [2] 58/21 78/7 primary [13] 16/21 51/21 51/24 56/7 56/22 68/24 69/24 71/20 72/3 76/7 83/6 99/10 99/25 principle [1] 53/8 prior [1] 81/15 prison [2] 9/17 12/18 prisons [4] 5/6 5/7 9/5 9/7 private [2] 5/20 43/21 probably [30] 17/3 22/4 22/15 26/12 32/4 39/14 44/17 48/8 59/19 65/22 67/21 67/21 68/2 72/17 73/5 74/6 81/25 82/19 82/20 86/24 86/25 87/6 87/17 91/25 93/17 95/6 95/24 97/14 99/8 104/17 probation [1] 44/9 problem [10] 8/22 10/4 19/15 36/14 77/2 79/19 83/4 98/10 98/20 106/9	proceed [2] 49/18 50/5 proceedings [6] 18/18 18/19 51/13 51/14 107/5 108/7 process [9] 31/18 37/17 38/10 50/22 69/15 81/3 84/5 88/1 101/12 processed [1] 5/16 produced [1] 13/5 product [1] 40/6 profession [3] 43/17 46/1 47/21 professional [1] 37/22 professor [1] 23/13 professors [1] 7/21 program [3] 6/3 16/12 22/21 progress [2] 4/1 6/9 projects [1] 16/6 promised [1] 31/18 prosecuting [1] 47/25	protect [2] 93/23 93/25 protection [6] 1/3 6/3 29/1 29/4 94/1 94/2 proteins [1] 67/16 protocol [3] 34/2 34/4 89/3 protons [1] 56/5 provide [10] 6/16 15/13 32/11 32/14 33/4 33/17 34/6 35/9 49/13 85/21 provided [1] 33/1 provider [1] 51/24 providers [2] 39/24 56/23 provides [2] 4/22 85/20 providing [5] 5/3 6/15 30/12 34/1 34/5 proximity [2] 43/19 46/14 PSA [2] 79/24 80/1 PSMA [9] 73/23 74/5 74/6 74/10 74/11 75/19 101/10 102/4 102/8 psychotic [1] 93/3 public [2]	quality [2] 15/12 63/1 quantifying [1] 68/20 quantitative [2] 89/20 93/10 quarter [3] 42/7 42/8 42/12 Quatics [1] 27/9 que [1] 5/16 question [5] 14/15 40/4 44/13 63/16 100/15 questions [7] 12/25 38/3 38/5 40/13	R R.R.A [1] 2/5 R.T [1] 2/5 Rad [7] 22/21 32/17 40/19 41/23 47/21 47/22 49/7 radiate [1] 74/22 radiation [37] 1/3 1/9 2/9 4/13 4/17 6/3 11/9 11/25 12/14 12/15 12/16 12/17 21/5 23/11 23/15 29/1 29/4 35/24 51/17 52/8 52/10 52/11 52/14 53/4 53/18 54/10 54/12 54/13 55/1 55/6 55/13 55/20 74/2 77/14 85/14 99/11 99/16 radio [10] 59/13 59/15 59/24 60/2 60/14 60/17 62/24 89/22 100/1 101/18 radioactive [5] 13/10 65/8 69/5 69/10 95/9 radiograph [3] 54/14 54/17 54/21 radiographer [6] 31/24
Q					

R	rays [2] 14/10 35/17	90/4 91/1 92/2	71/11	41/11 41/12	resolves [1] 96/24
radiographer.	RCEEM [2] 37/18 39/14	92/16 94/4	Reflex [1] 82/24	remotely [1] 38/9	resources [1] 15/20
.. [5] 32/19	RCEEMs [1] 38/9	100/3	region [1] 27/4	remove [1] 10/7	response [5] 14/1 14/8
32/25 33/23	RDR [3] 1/19	Realtime [1] 1/20	regional [2] 80/23 82/25	removing [1] 77/11	88/11 89/24
34/7 38/16	108/5 108/19	reason [7] 8/11 23/10	registered [2] 41/25 44/15	renal [2] 76/25 79/11	104/10
radiographers	re [1] 66/10	26/14 47/9	registrant [1] 8/19	renew [2] 38/18 38/19	rest [13] 19/12 28/22
[1] 101/7	re-sync [1] 66/10	64/15 65/12	registrants	renewal [4] 44/21 44/22	55/16 60/22
radiography	reach [1] 6/12	81/1	[1] 15/13	44/25 47/3	60/22 61/10
[2] 43/17 44/8	reached [1] 7/19	reasons [1] 64/12	registration	renewed [1] 44/18	61/14 61/24
radiologic [1]	read [10] 10/2 28/24	rebuilding [1] 79/4	[1] 5/21	repealed [1] 50/4	62/9 62/10
45/12	37/25 42/25	rebuts [1] 34/13	registry [2] 37/2 48/15	replaced [1] 56/20	62/19 96/3
radiological	58/8 61/12	received [1] 42/7	regular [3] 82/10 85/10	report [3] 36/20 89/18	96/9
[1] 100/16	73/17 87/3	recent [5] 11/12 11/13	100/9	Reported [1] 1/19	restroom [1] 42/23
radiologically	95/23 103/16	11/18 45/18	regulated [1] 99/14	reporter [6] 1/20 4/1 15/22	resubmitted
[1] 24/4	reading [3] 69/5 74/16	76/11	regulation [5] 32/20 49/21	15/23 17/22	[1] 6/5
radiologist	86/10	recently [3] 66/2 72/12	50/12 72/22	108/6	results [1] 4/24
[5] 31/24	ready [2] 18/1 25/20	73/1	96/11	Reported [1] 1/19	resumed [2] 18/19 51/14
33/25 34/9	real [6] 10/3	receptor [1] 71/13	regulations	reports [3] 10/2 11/22	s [1] 66/7
100/22 104/1	40/22 52/24	recessed [2] 18/18 51/13	[4] 49/8 49/10	89/19	retired [2] 2/2 27/16
radiologists	71/21 84/21	recognition	49/11 49/12	represent [1] 100/8	retirement
[2] 32/16 69/4	106/9	[1] 36/19	regulatory	representing	[2] 19/11
radiology [1]	realize [1] 83/7	recognize [2] 69/10 98/24	[1] 50/8	[1] 13/16	29/24
99/18	realized [3] 57/16 68/12	recognized	related [2] 12/14 45/11	request [5] 4/15 5/25 9/2	retirements
radium [2]	72/23	[2] 7/1 37/18	relates [2] 43/8 44/1	9/6 32/1	[1] 22/16
20/25 85/14	realizing [1] 57/15	record [1] 108/8	relative [2] 108/10 108/12	requested [1] 53/11	retiring [1] 19/6
radon [4]	really [35] 7/23 8/17 8/18	recording [1] 34/7	relatively [2] 45/18 46/5	require [4] 12/8 16/4	review [4] 49/21 50/9
53/19 53/21	21/17 23/16	records [2] 36/13 47/2	release [1] 97/19	49/16 57/12	50/10 55/24
54/7 55/19	23/22 42/3	recover [1] 64/6	relevant [1] 7/2	required [2] 36/11 36/12	reviewed [1] 50/17
ran [1] 22/21	49/23 56/15	recurrence	85/21	research [1] 101/8	revocation
Randy [1] 2/2	67/8 68/17	[1] 74/24	relief [1] 85/21	researchers	[1] 45/2
range [2]	70/17 72/19	recurs [1] 74/3	rely [1] 69/15	[1] 7/20	revoked [3] 42/18 44/8
16/19 95/15	72/23 72/24	red [3] 15/2	remember [7] 13/18 20/7		44/14
ranking [1]	73/4 74/9	64/8 84/3	24/17 25/10		rhythm [1] 66/11
4/5	74/20 74/24	reduces [1] 14/7	28/6 34/24		Richard [1] 28/8
rap [1] 52/9	75/3 75/11	referring [1]	84/9		rid [1] 69/13
Rapt [1] 24/2	75/17 76/1				ride [3] 40/23
rarely [1]	76/4 83/4				40/24 40/25
98/18	84/22 85/4				
rate [4] 16/14	85/11 88/13				
16/16 66/10					
69/23					
ray [18] 4/7					
5/19 8/13 8/23					
13/5 13/7					
24/18 24/19					
24/19 25/9					
27/7 27/8 28/7					
54/24 55/6					
55/9 82/8					
82/10					
raying [1]					
9/1					

R	room [4] 67/11 73/7 9/17 9/25 10/8 78/24 83/13 31/6 88/19 98/17 rotating [1] 102/13 78/3 sarcoid [9] 57/14 57/15 roughly [1] 65/6 65/10 41/16 65/13 65/20 routine [2] 67/14 67/14 50/19 88/20 RSO [1] 2/4 67/20 RT [2] 2/4 2/7 Rubidium [1] 103/16 58/18 Savannah [1] 24/2 rule [7] 6/9 24/2 6/10 7/1 37/15 saw [2] 28/19 40/7 49/18 80/14 50/22 say [18] 5/10 11/11 11/18 rules [7] 7/17 15/21 30/3 11/15 16/1 32/5 42/6 45/9 16/3 37/16 63/11 85/4 40/5 51/1 88/17 89/18 run [1] 50/1 98/4 100/23 runners [1] 102/7 102/21 82/7 104/3 105/7 running [3] 25/6 26/15 58/22	scanning [1] 7/9 27/8 41/1 49/23 52/13 scans [11] 52/22 52/25 5/4 8/9 52/14 56/10 57/3 52/17 56/16 60/8 61/5 61/9 56/19 75/12 61/24 62/7 75/13 77/3 64/4 64/25 80/11 94/23 65/2 65/18 scared [2] 66/25 67/25 52/14 99/11 68/16 70/1 Schenkman [1] 2/2 70/4 70/12 school [1] 70/19 70/20 13/18 71/2 71/7 sclerotic [2] 71/16 72/3 72/4 72/5 75/9 75/16 72/10 73/16 scope [1] 73/19 74/8 4/20 74/15 75/1 score [1] 75/2 75/10 80/4 75/15 77/15 screening [7] 78/7 78/8 6/10 6/15 7/17 78/13 78/18 11/7 11/8 58/4 78/20 78/25 87/20 79/2 79/10 screens [2] 79/11 79/12 17/12 17/14 79/16 80/8 scroll [1] 81/13 82/12 70/6 83/11 84/22 seat [1] 19/2 84/22 85/2 second [4] 85/11 85/12 19/3 21/25 86/13 86/19 88/8 105/21 seconds [1] 87/1 87/1 87/8 19/7 87/13 87/19 section [5] 88/11 90/16 4/15 15/9 20/6 91/8 91/12 60/23 92/21 92/10 92/22 sectional [1] 94/24 95/1 93/9 95/4 95/15 secure [1] 95/19 97/2 5/11 97/7 security [6] 64/5 100/16 5/3 6/9 6/15 seeing [2] 64/5 100/16 6/25 7/9 7/17 seeking [1] 46/12 seems [1] 32/15 segments [1] 78/10 select [2] 7/3 11/16 selected [1] 34/18	sell [1] 40/6 send [1] 19/11 sending [2] 96/10 103/21 sense [1] 14/7 senses [1] 59/23 sensitive [2] 75/13 81/5 sensitivity [2] 14/1 102/12 sentence [1] 49/19 September [1] 1/16 Sequel [2] 16/23 17/9 Sequels [1] 17/9 sequentially [1] 31/21 serially [1] 31/21 service [2] 15/12 29/3 services [1] 36/11 session [1] 35/11 set [9] 6/21 8/6 10/25 15/25 37/24 38/24 40/5 60/6 88/23 setting [3] 36/6 36/7 52/21 seven [1] 80/5 several [11] 17/2 19/16 27/11 35/2 56/20 70/18 76/23 78/4 83/3 83/23 84/11 severe [1] 93/19 shall [1] 49/14	
risk [24] 4/23 6/18 7/22 8/20 8/24 9/1 10/23 11/3 11/10 11/12 11/13 11/24 11/25 12/2 12/17 57/24 58/1 58/2 58/3 58/6 62/13 76/10 80/3 80/6 risks [3] 6/21 10/20 65/22 Rita [3] 1/19 108/5 108/19 River [1] 24/3 road [1] 49/9 roadblock [1] 7/15 Robin [1] 94/18 role [2] 20/23 31/23	S safe [1] 99/13 safety [1] 6/16 said [14] 10/21 23/14 44/19 45/14 53/14 65/24 72/18 74/16 76/19 84/12 88/13 91/5 99/24 104/20 salivary [1] 75/22 same [23] 9/8 15/20 18/16 20/14 20/15 28/5 28/18 39/21 41/7 42/8 48/19 55/13 61/9 61/14 62/6 62/6	satellite [1] 103/16 satellite [1] 103/16 Savannah [1] 24/2 saw [2] 28/19 80/14 say [18] 5/10 11/11 11/18 15/21 30/3 32/5 42/6 45/9 63/11 85/4 88/17 89/18 98/4 100/23 102/7 102/21 104/3 105/7 saying [10] 4/7 5/10 5/11 12/12 16/17 30/5 40/9 52/8 53/18 90/1 says [4] 29/1 49/16 49/19 50/10 scale [1] 87/18 scaling [1] 87/19 scan [15] 36/19 52/15 57/6 64/8 76/8 76/22 79/9 82/11 85/10 87/4 88/24 95/17 97/10 100/24 100/24 scanned [1] 89/10 scanner [2] 58/21 90/1 scanners [5] 9/8 85/5 85/7 85/8 88/18	scanning [1] 7/9 27/8 41/1 49/23 52/13 52/22 52/25 56/10 57/3 60/8 61/5 61/9 61/24 62/7 64/4 64/25 65/2 65/18 66/25 67/25 68/16 70/1 70/4 70/12 70/19 70/20 71/2 71/7 71/16 72/3 72/4 72/5 72/10 73/16 73/19 74/8 74/15 75/1 75/2 75/10 75/15 77/15 78/7 78/8 78/13 78/18 78/20 78/25 79/2 79/10 79/11 79/12 79/16 80/8 81/13 82/12 83/11 84/22 84/22 85/2 85/11 85/12 86/13 86/19 87/1 87/1 87/8 87/13 87/19 88/11 90/16 91/8 91/12 92/10 92/22 94/24 95/1 95/4 95/15 95/19 97/2 97/7 seeing [2] 64/5 100/16 seeking [1] 46/12 seems [1] 32/15 segments [1] 78/10 select [2] 7/3 11/16 selected [1] 34/18	sell [1] 40/6 send [1] 19/11 sending [2] 96/10 103/21 sense [1] 14/7 senses [1] 59/23 sensitive [2] 75/13 81/5 sensitivity [2] 14/1 102/12 sentence [1] 49/19 September [1] 1/16 Sequel [2] 16/23 17/9 Sequels [1] 17/9 sequentially [1] 31/21 serially [1] 31/21 service [2] 15/12 29/3 services [1] 36/11 session [1] 35/11 set [9] 6/21 8/6 10/25 15/25 37/24 38/24 40/5 60/6 88/23 setting [3] 36/6 36/7 52/21 seven [1] 80/5 several [11] 17/2 19/16 27/11 35/2 56/20 70/18 76/23 78/4 83/3 83/23 84/11 severe [1] 93/19 shall [1] 49/14

S	86/24 87/14	six [2] 19/7	society [4] 11/2 12/4	speaker [1] 39/5
share [1] 19/14	showing [2] 25/4 86/16	48/6	someone [8] 15/15 16/20	Speaking [1] 47/19
sharing [1] 30/8	shows [2] 63/15 82/8	size [4] 11/6	32/14 43/2	spec [1] 68/21
sharp [1] 66/25	shut [2] 25/22 81/2	15/2 15/20	43/19 97/15	Specialist [1] 2/12
she [7] 20/4	side [11] 12/15 12/16	61/19	102/24 103/18	specific [2] 11/19 73/2
20/7 20/10	12/17 20/3	skeleton [2] 79/10 85/11	someplace [1] 22/8	specifically [3] 46/18
22/6 23/21	21/19 28/18	skin [4] 13/22	something [23] 8/11	101/9 102/9
27/20 45/16	41/2 41/20	13/23 14/3	8/14 9/18 9/19	specificity [1] 102/12
She'll [1] 29/19	50/4 59/14	14/7	9/20 9/22 16/4	speech [10] 29/15 29/15
she's [1] 21/1	96/8	skins [1] 13/20	19/8 35/3	29/17 29/21
sheep [2] 13/20 13/20	sight [1] 43/23	skull [1] 87/11	35/12 35/13	29/21 29/21
sheet [3] 36/18 61/11	sign [4] 21/7	sky [2] 68/2	38/2 45/19	31/23 32/9
93/14	29/17 29/18	68/4	49/17 51/11	32/16 33/16
shift [3] 68/23 76/6	52/22	slaced [1] 60/20	83/8 87/12	speech-langu
79/1	signal [1] 103/22	slashes [1] 62/7	92/10 101/3	age [3] 31/23
shifting [1] 65/5	signed [2] 29/7 106/21	slide [1] 100/8	101/4 101/19	speed [1] 97/5
shin [1] 81/6	significant [4] 77/1 81/4	slides [1] 20/17	101/22 102/17	spelling [1] 17/23
shins [2] 4/4	82/20 84/15	slip [2] 9/25	sometimes [10] 32/15	spend [1] 16/4
82/7	significantly [1] 92/23	41/22	48/2 52/18	spine [2] 80/9 82/4
shipped [1] 59/16	signs [2] 53/1	SLP [5] 32/18	76/2 80/21	spiteful [1] 23/17
shock [1] 66/9	65/13	33/1 33/12	81/8 84/21	splints [1] 81/6
shoot [1] 4/4	silver [1] 91/20	33/23 34/4	98/1 100/20	Spokane [1] 13/16
short [1] 58/19	similar [6] 43/18 43/25	small [4] 72/2 72/4 76/4	101/3	spot [1] 75/10
shortly [2] 5/15 58/17	58/24 67/13	97/13	somewhat [1] 17/19	spots [1] 62/18
shot [2] 22/3	75/20 92/14	smaller [4] 60/8 64/4	somewhere [2] 44/4 84/6	sprain [1] 84/2
22/23	Simpson's [1] 22/7	70/16 71/7	Sorry [1] 107/4	spreading [1] 74/24
should [15] 7/18 8/4 8/23	simulate [1] 13/22	smashed [1] 60/9	sort [7] 6/2	squeeze [1] 97/18
12/3 22/4 38/3	since [2] 49/17 52/3	Smelter [1] 5/23	33/17 35/11	squeezed [1] 66/15
45/23 53/14	single [4] 21/17 54/25	smelting [1] 4/12	49/4 49/4	squeezes [1] 66/18
58/7 58/10	58/15 63/4	smoke [1] 103/21	86/25 90/4	
61/21 65/23	sit [1] 60/7	smooth [1] 78/22	sounds [3] 12/5 41/19	
66/16 90/9	site [3] 33/6	smoothly [1] 27/22	106/14	
104/8	41/11 41/12	snippet [2] 19/13 42/16	source [1] 20/25	
shouldn't [1] 58/2	sitting [1] 41/6	so [342]	sources [2] 55/21 69/16	
show [8] 20/17 30/18	situations [1] 43/18	societies [2] 32/4 39/8	space [1] 95/20	
38/12 38/13			spacing [1] 17/16	
78/16 82/11			speak [5] 19/2 27/22	
			40/23 59/21	
			106/16	

S	starting [2] 65/11 104/24	44/15 47/5 59/17 63/22	stuff [11] 9/24 9/25 17/6 21/22 53/19 54/10 59/15 75/21 91/20 103/14 103/17	sure [15] 11/14 19/7 22/1 28/17 34/18 37/14 40/17 42/24 46/21 47/1 47/16 64/16 64/22 88/1 106/12	sympathetic [1] 82/24
squeezing [1] 66/15	starts [1] 105/2	73/22 73/24 75/11 75/13 77/3 79/17	sub [2] 49/22 74/17	64/22 88/1 106/12	symptoms [3] 58/10 83/24 92/18
squish [1] 61/7	state [15] 1/20 7/20 7/21 15/3 19/10 24/4 37/21 39/10 41/24 42/4 44/15 48/16 80/21 100/13 108/2	88/5 93/1 93/25 101/12 102/4 102/6 105/10	subjects [1] 20/13	106/12	sync [1] 66/10
staff [10] 2/9 27/18 27/25 27/25 28/4 28/22 30/12 31/17 38/7 103/7	states [6] 4/16 38/20 42/21 53/22 55/2 55/5	stole [1] 46/2	submitted [4] 5/17 6/6 6/23 36/21	surge [1] 14/18	syndrome [4] 80/24 82/25 83/11 93/1
stage [2] 69/24 72/8	statin [1] 71/24	stop [3] 74/24 93/6 94/5	subparts [1] 48/13	surgery [7] 76/11 80/18 81/17 83/9 98/11 98/16 99/6	Synthroid [1] 96/3
stall [2] 42/23 42/24	statistics [1] 12/1	storage [1] 21/8	substances [3] 46/3 46/8 46/14	surveillance [1] 42/19	system [8] 15/8 27/22 77/21 79/12 81/1 83/3 84/6 102/22
stand [3] 19/2 20/20 48/7	statute [4] 33/7 43/2 49/13 49/15	stored [1] 96/23	subtle [1] 75/16	survive [1] 76/15	systems [5] 16/22 17/2 36/18 54/6 88/20
standard [7] 7/8 9/10 38/1 88/19 89/3 93/12 101/23	statutes [6] 4/15 5/12 6/14 48/10 48/11 49/24	story [1] 47/11	successfully [2] 17/11 47/24	surveillance [1] 42/19	T
standardizati on [1] 38/6	statutory [1] 33/2	straight [1] 58/1	such [2] 6/18 41/15	survive [1] 76/15	table [2] 56/2 82/18
standardizing [1] 88/25	stay [3] 17/19 52/25 102/13	straightforwa rd [1] 45/24	sudden [1] 16/1	suspend [1] 48/20	tables [2] 17/9 17/9
standards [8] 6/21 7/2 7/17 16/11 37/17 37/24 38/11 44/4	stays [2] 95/2 97/23	stress [10] 60/22 61/8 61/24 62/8 81/6 82/5 82/9 82/13 82/15 82/20	sugar [2] 64/1 89/10	suspicion [1] 98/6	tag [1] 64/8
standing [1] 26/10	stenographic [1] 108/9	stress/rest [1] 61/24	suggested [1] 15/7	SUV [3] 88/16 89/11 90/4	take [15] 28/15 29/11 31/5 35/17 37/25 39/14 48/19 51/10 61/6 62/23 70/7 77/16 78/3 91/20 95/13
standpoint [3] 32/24 63/2 71/22	stenographic ally [1] 108/6	stressed [1] 62/11	Suites [1] 1/10	SUVs [1] 88/10	taken [3] 97/15 97/21 99/4
stands [3] 70/12 70/17 75/3	stent [1] 62/15	stressing [1] 61/13	sun [2] 54/8 55/22	swallow [1] 34/3	takes [6] 38/15 38/16 50/25 76/21 95/18 97/17
starry [2] 68/2 68/4	step [1] 39/15	strip [1] 91/15	Sunday [1] 105/13	swallows [1] 32/12	talents [1] 30/7
start [10] 7/25 20/20 29/25 64/16 70/16 77/11 81/19 94/16 101/21 106/7	stepchild [1] 15/2	strontium [1] 13/20	sunset [4] 40/25 49/11 49/12 49/24	sweater [1] 22/19	talk [8] 12/22 20/13 31/13 51/6 51/16 51/19 57/22
started [7] 19/9 19/20 23/3 31/22 48/4 83/24 95/6	Stevens [2] 28/10 28/12	structure [1] 56/3	super [1] 41/13	sweet [1] 27/23	
	stick [2] 15/8 15/8	structures [1] 70/16	supervision [4] 32/25 33/5 33/6 34/1	swelling [1] 83/25	
	still [24] 4/13 10/14 14/5 28/1 28/12 36/22 44/10	student [1] 12/6	supposed [7] 8/21 9/18 10/7 35/11 40/18 61/5 89/12	swells [1] 84/2	
		studies [2] 57/11 63/13	supposedly [1] 10/1	swishy [1] 43/12	
		study [4] 58/3 63/18 64/3 74/1	suppressed [2] 71/24 96/9	switch [2] 71/17 73/8	
				switched [1] 68/10	
				switches [1] 63/25	
				symbol [2] 52/8 53/3	

T	telephonic	64/5 69/17	103/17 104/2	56/14 56/20	75/13 76/13
talk... [1]	[1] 33/8	69/18 74/5	theme [1]	57/4 57/12	77/22 79/18
93/17	tell [12] 8/20	75/13 80/2	28/3	60/15 62/2	83/22 83/24
talking [9]	21/4 22/23	82/14 85/9	themselves	62/25 63/2	85/7 87/2
14/16 19/4	28/20 37/11	87/16 92/18	[1] 79/4	64/9 64/19	87/14 87/23
19/15 25/13	61/19 68/5	98/20 99/8	then [109]	65/15 66/25	90/13 90/24
31/20 34/11	71/8 80/22	thank [6]	theoretically	67/18 68/15	93/16 93/18
56/24 72/13	90/21 91/9	14/14 29/13	[1] 93/22	70/4 70/11	94/9 94/12
72/15	103/13	29/23 30/19	theory [1]	70/18 71/1	95/25 103/15
Tallahassee	telling [1]	30/20 30/22	40/3	72/3 72/5 72/8	103/18
[2] 19/12	83/6	Thanks [2]	therapy [2]	73/25 74/3	they [192]
41/17	tells [2]	29/24 51/4	35/21 64/22	74/21 75/15	they'll [8]
Tampa [7]	23/21 61/18	that [378]	there [47]	76/23 77/7	34/24 58/9
1/11 1/12 5/19	temporary	that's [122]	6/2 9/2 9/12	78/10 78/13	64/18 64/19
27/6 27/7	[1] 85/19	their [38] 4/4	9/23 11/10	78/20 82/12	84/3 94/12
27/15 59/16	ten [10] 29/3	4/6 4/10 5/18	11/17 12/11	83/12 84/7	103/1 103/2
tangential [1]	50/1 50/2	5/20 9/19 9/20	12/11 12/12	84/7 86/5 86/7	they're [35]
32/23	58/25 69/7	9/21 10/6 10/6	12/16 13/17	86/20 86/23	4/7 5/24 8/15
tangles [3]	69/18 72/17	10/9 10/9	13/17 14/21	87/9 88/10	8/21 13/4 13/7
90/13 90/19	80/4 92/1	10/12 15/5	15/18 16/3	88/24 89/6	13/8 35/10
90/23	96/14	15/9 34/5	17/3 18/16	89/7 90/5	36/8 36/10
tanned [1]	ten-year [1]	35/14 51/25	19/20 20/12	90/18 90/19	44/13 45/1
13/22	50/1	58/9 64/23	20/15 21/7	91/1 91/2 91/4	48/16 52/14
targeted [1]	tend [5]	67/3 68/18	21/13 21/16	91/12 93/15	58/1 58/2
8/24	65/10 75/8	68/25 76/13	21/17 22/4	94/3 95/14	65/10 65/11
teamwork [1]	78/25 87/15	76/14 77/9	24/8 25/20	96/4 99/23	70/22 74/8
30/4	94/22	77/11 77/20	28/11 29/19	99/25 101/4	74/17 78/24
tech [8] 20/2	tends [3]	77/23 79/17	33/25 35/12	101/7 103/13	79/17 82/7
22/21 32/17	73/15 79/22	80/9 82/7	35/16 36/1	103/15	89/10 93/3
38/15 40/19	94/11	89/10 91/15	38/1 48/7	therefore [1]	94/5 95/15
47/21 47/22	tense [1]	91/18 93/11	49/20 60/10	8/22	101/8 102/6
49/7	68/17	93/23 96/4	65/3 65/4 78/1	these [60]	102/25 103/9
technetium	tenure [1]	them [41]	78/7 78/15	7/13 7/19 8/4	103/19 103/20
[6] 58/14	19/16	9/8 10/15	79/10 84/10	8/19 13/12	104/3
59/18 64/10	term [1] 82/1	11/14 34/5	103/10 103/11	16/14 24/17	they've [7]
68/9 77/19	terribly [1]	35/9 39/8 44/9	105/24	35/16 43/10	5/19 12/20
85/10	40/21	47/25 48/17	there's [92]	45/10 53/1	17/10 44/14
technically	test [2] 38/3	48/20 51/19	4/18 5/9 7/5	53/7 54/4	44/18 66/3
[2] 47/6	38/5	52/1 64/21	7/6 7/12 8/10	55/12 56/7	88/11
103/24	tested [1]	71/6 71/25	17/22 20/19	56/11 56/22	thicknesses
technologist	13/21	75/14 76/16	21/22 23/14	56/23 58/13	[1] 14/2
[2] 38/14	Texas [1]	77/11 77/24	24/19 26/22	59/1 61/20	thing [36]
43/19	105/3	78/2 80/6	27/7 32/8	66/6 67/20	4/7 6/5 8/23
technologists	textual [1]	84/12 85/17	32/24 33/13	67/23 68/15	11/18 11/19
[2] 38/22	37/25	86/14 87/21	33/22 35/12	69/20 69/22	12/22 15/6
49/16	thallium [4]	88/19 89/19	35/16 35/25	70/14 70/18	16/21 17/21
technology	62/25 63/21	91/10 93/21	37/14 37/23	70/19 71/4	21/17 28/23
[3] 20/15	63/21 64/3	94/1 96/3	38/1 39/13	71/6 73/12	29/24 34/8
45/12 46/19	than [19]	97/11 101/4	41/21 45/4	73/17 74/15	34/18 40/16
techs [4]	4/23 6/17 26/4	101/17 101/24	48/10 51/5	74/16 74/18	52/20 57/20
39/6 41/23	41/19 46/4	102/7 102/14	52/12 56/8	74/19 74/21	57/22 58/8
45/20 90/2	48/19 50/22	103/1 103/13	56/12 56/13	74/23 75/12	59/12 61/14

T	thinking [1]	50/21 51/1	69/4 74/8	82/22 99/15	transferring
thing... [15]	74/4	52/24 56/11	77/25 78/1	topic [2] 32/6	[2] 9/19 9/24
62/6 69/11	thinks [1]	60/4 60/14	82/17 88/2	85/23	transient [1]
70/6 73/7	63/23	61/4 70/6	88/20 89/9	torso [1]	96/21
73/16 74/10	third [8]	77/20 83/2	89/23 94/6	10/15	transitioning
77/15 85/13	48/14 48/21	87/5 93/9 95/4	95/3 95/5 98/5	total [3] 6/25	[1] 103/9
94/7 94/14	48/23 48/24	101/12 104/15	101/10 103/19	10/22 10/23	transport [1]
98/17 99/9	49/5 49/5 49/5	105/13 105/15	106/24	touches [1]	69/8
102/13 105/21	105/21	throughout	timely [1]	32/21	trash [1]
106/19	Thirty [1]	[2] 61/5 79/15	50/11	tough [1]	90/10
things [34]	19/18	throw [1]	times [9]	44/6	trauma [3]
5/5 7/23 8/19	Thirty-four	43/9	15/7 49/25	towards [1]	79/7 80/25
10/6 11/20	[1] 19/18	throwing [1]	67/2 69/18	8/24	83/8
11/23 15/24	this [361]	76/17	76/19 77/17	towel [1]	travel [2]
16/2 16/13	Thomas [1]	thrown [1]	81/8 83/23	66/16	38/8 106/20
16/21 17/2	28/6	78/23	88/23	town [1] 69/8	traveling [1]
19/14 20/14	those [23]	throws [2]	Tineo [1] 2/7	toxic [1] 96/6	105/23
20/14 27/22	5/9 6/10 10/7	76/14 77/21	tiny [1] 74/15	tracer [17]	treadmill [3]
39/12 39/20	11/12 14/15	Thursday [7]	tissue [4]	58/16 58/18	58/22 59/1
43/20 43/24	19/5 36/15	1/16 105/13	62/5 63/20	58/24 59/24	59/17
45/11 45/14	37/5 45/17	105/23 106/5	69/18 79/11	60/17 63/3	treat [15]
46/15 52/1	52/23 60/16	106/6 106/10	today [5] 6/7	65/8 68/11	46/9 66/3
85/1 86/4	60/23 67/5	106/15	31/5 32/5	70/23 71/16	67/20 67/22
86/14 86/23	71/18 73/10	Thursdays [1]	58/14 58/16	72/5 75/21	71/25 72/10
87/3 88/25	77/2 83/21	104/14	today's [1]	92/6 97/8	72/11 73/9
90/9 99/20	88/20 89/12	thyroid [9]	104/5	101/18 101/21	74/1 74/13
102/16 104/4	90/19 90/23	56/21 93/23	toe [1] 81/15	103/12	74/21 74/25
104/6	91/14 93/6	95/3 95/8	together [1]	tracer's [1]	76/16 93/25
think [49]	though [8]	95/19 96/7	51/16	60/14	96/2
8/9 8/22 12/21	46/9 53/17	96/14 96/19	told [3] 24/14	tracers [8]	treated [1]
15/16 15/18	73/4 84/19	96/22	35/13 84/12	58/13 62/24	78/24
16/13 20/11	85/20 93/15	thyroiditis [1]	Tom [1]	62/25 68/8	treatment
21/24 25/5	101/13 104/3	96/18	32/20	85/9 90/6	[10] 34/10
27/5 27/12	thought [1]	thyroids [1]	Tommy [1]	100/1 103/10	49/4 56/3 57/5
28/5 28/16	99/9	97/2	28/4	tracking [3]	71/23 72/9
29/7 31/3	three [11]	tibia [1]	tongue [1]	34/21 88/2	72/25 89/23
31/12 31/22	23/20 32/16	82/13	70/19	89/23	95/11 97/1
33/8 35/4	38/16 45/18	tie [3] 36/15	too [13]	tracks [1]	treatments
35/15 36/6	53/4 60/15	43/14 98/21	10/11 32/2	35/17	[2] 100/1
38/1 40/1 42/4	68/17 80/11	tied [1] 98/17	32/4 42/25	tract [2] 10/7	100/4
44/3 45/1 49/6	82/12 84/4	time [39]	43/12 45/5	10/9	tree [2] 99/2
53/5 53/8	105/22	15/20 15/21	52/22 54/2	trained [1]	99/6
54/20 56/11	threshold [1]	16/3 18/5 19/3	54/25 58/5	6/19	tremors [1]
59/7 63/3	41/23	23/14 24/6	58/11 82/19	training [4]	92/14
66/12 68/24	threw [1]	24/21 27/18	103/3	20/24 21/16	trials [1]
71/11 81/14	35/14	27/20 28/7	took [4] 25/8	30/11 30/12	59/21
82/17 85/22	thrombosis	31/3 31/12	25/8 40/21	trainings [1]	tried [1] 7/18
85/22 95/7	[1] 76/13	37/11 41/5	98/8	22/15	troponin [1]
98/2 98/3	through [23]	43/5 44/23	tools [1]	transcript [2]	58/12
101/7 102/5	9/8 20/12	45/18 46/5	17/18	17/25 108/8	true [2] 26/7
103/22 104/4	23/13 36/21	47/22 52/17	top [5] 42/23	transferred	108/8
105/18 106/21	38/8 39/12	54/9 67/11	61/8 62/8	[1] 33/16	truly [2]

T	13/22 45/10 53/4 88/3	university [1] 12/5	86/24 87/2 87/3 87/7	11/24 13/8 34/4 35/8	76/18 77/5 77/18 84/17
truly... [2] 63/17 92/8	typical [2] 60/13 79/21	unlawful [1] 42/19	87/12 87/14 87/21 90/3	36/18 37/18 38/17 38/19	84/18 93/21 94/25 95/1
try [13] 4/10 6/12 11/3 51/17 52/24 89/5 89/11 92/10 93/24 95/4 102/14 102/24 103/18	typically [2] 80/9 89/2	unless [3] 20/19 51/5 77/16	90/10 90/16 92/20 95/18 96/23 97/3 97/5 97/11 97/17 97/21 99/4 101/16 101/20 104/18 105/1 106/16	38/24 39/9 43/11 43/11 56/13 58/3 58/13 58/16 58/19 59/9 65/7 67/12 72/9 72/20 72/24 74/12 76/25 77/6 77/8 80/19 85/3 86/9 88/18 89/13 90/6 91/3 95/9 95/10 95/10 95/12 97/1	95/13 96/1 96/15 96/21 97/2 97/25 98/3 101/2 102/20 104/15 105/12
trying [10] 8/8 8/25 10/19 13/2 17/19 40/7 45/9 64/6 105/8 105/16	U	unlike [1] 74/11	update [8] 11/20 35/8 40/19 41/22 47/18 49/7 49/8 51/4	56/13 58/3 58/13 58/16 58/19 59/9 65/7 67/12 72/9 72/20 72/24 74/12 76/25 77/6 77/8 80/19 85/3 86/9 88/18 89/13 90/6 91/3 95/9 95/10 95/10 95/12 97/1	utilized [1] 70/24
tube [3] 5/20 13/12 59/23	ugly [1] 22/19	unlikely [1] 75/25	updated [1] 34/20	used [16] 12/3 24/23 40/7 49/25 59/9 66/4 68/1 68/9 69/3 71/14 79/23 86/10 87/20 95/9 98/23 103/12	V
Tuesday [1] 106/8	ulcer [1] 81/18	unprofessional [2] 48/12 48/23	updates [2] 12/21 34/19	used [16] 12/3 24/23 40/7 49/25 59/9 66/4 68/1 68/9 69/3 71/14 79/23 86/10 87/20 95/9 98/23 103/12	V2 [1] 76/8 VA [2] 39/6 101/13
tumor [4] 71/19 72/2 87/9 101/1	ultrasounds [1] 98/1	unstable [3] 56/1 56/4 56/5	updating [1] 34/21	used [16] 12/3 24/23 40/7 49/25 59/9 66/4 68/1 68/9 69/3 71/14 79/23 86/10 87/20 95/9 98/23 103/12	vacant [1] 41/3
tumors [4] 71/15 71/22 72/20 79/7	um [3] 12/21 15/24 15/24	until [8] 11/20 18/25 28/9 42/12 45/3 48/20 84/4 96/1	upon [1] 101/25	used [16] 12/3 24/23 40/7 49/25 59/9 66/4 68/1 68/9 69/3 71/14 79/23 86/10 87/20 95/9 98/23 103/12	valid [1] 6/22 value [4] 11/3 11/4 21/24 88/16
turn [4] 26/17 47/16 64/2 106/20	umpteens [1] 48/12	up [88] 4/3 6/13 7/18 8/6 11/2 13/2 15/25 19/2 20/8 20/12 20/20 21/15 22/13 24/3 24/3 25/4 25/22 30/18 31/15 34/8 35/7 35/12 35/14 42/2 42/5 44/20 44/22 44/25 48/24 48/25 49/5 53/9 54/4 54/7 58/5 60/6 66/3 66/22 71/16 72/22 72/23 73/13 73/20 74/11 74/13 75/4 75/6 75/7 75/11 75/17 75/21 75/25 76/3 77/9 77/13 80/9 80/10 82/2 82/18 82/21 84/2 84/17 84/19 85/11	upright [1] 60/8	updates [2] 12/21 34/19	value [4] 11/3 11/4 21/24 88/16
turned [1] 106/22	under [9] 4/17 5/21 5/24 33/12 42/9 42/24 48/18 67/21 103/24	uptake [15] 68/15 68/18 75/22 81/21 82/12 83/12 86/3 86/17 87/15 92/5 93/2 95/13 95/22 96/20 97/8	upon [1] 101/25	updates [2] 12/21 34/19	variability [1] 57/13
tutors [1] 26/9	undergoing [1] 73/10	uptake [15] 68/15 68/18 75/22 81/21 82/12 83/12 86/3 86/17 87/15 92/5 93/2 95/13 95/22 96/20 97/8	upright [1] 60/8	updates [2] 12/21 34/19	variation [2] 28/3 89/7
TV [1] 63/5 Twenty [1] 14/25	underneath [1] 41/4	uptake [15] 68/15 68/18 75/22 81/21 82/12 83/12 86/3 86/17 87/15 92/5 93/2 95/13 95/22 96/20 97/8	upright [1] 60/8	updates [2] 12/21 34/19	various [3] 22/15 27/25 91/23
twin [1] 25/24	understand [2] 8/17 52/6	uptake [15] 68/15 68/18 75/22 81/21 82/12 83/12 86/3 86/17 87/15 92/5 93/2 95/13 95/22 96/20 97/8	upright [1] 60/8	updates [2] 12/21 34/19	vascular [1] 80/12
two [13] 5/10 32/18 33/23 34/24 38/4 42/13 50/22 62/18 63/13 64/11 90/1 90/19 90/22	unequal [1] 56/5	uptake [15] 68/15 68/18 75/22 81/21 82/12 83/12 86/3 86/17 87/15 92/5 93/2 95/13 95/22 96/20 97/8	upright [1] 60/8	updates [2] 12/21 34/19	vein [1] 76/13
type [12] 6/4 7/25 8/23 12/11 36/7 67/6 69/11 75/20 81/11 88/14 88/23 105/21	unexplained [1] 58/12	uptake [15] 68/15 68/18 75/22 81/21 82/12 83/12 86/3 86/17 87/15 92/5 93/2 95/13 95/22 96/20 97/8	upright [1] 60/8	updates [2] 12/21 34/19	ventilation [5] 76/8 77/6 78/9 78/16 78/21
types [4]	unfortunately [4] 20/19 42/22 48/6 84/7	uptake [15] 68/15 68/18 75/22 81/21 82/12 83/12 86/3 86/17 87/15 92/5 93/2 95/13 95/22 96/20 97/8	upright [1] 60/8	updates [2] 12/21 34/19	venting [1] 54/6
	uniform [1] 79/14	uptake [15] 68/15 68/18 75/22 81/21 82/12 83/12 86/3 86/17 87/15 92/5 93/2 95/13 95/22 96/20 97/8	upright [1] 60/8	updates [2] 12/21 34/19	ventricle [3] 61/19 66/14 66/18
	unique [1] 47/7	uptake [15] 68/15 68/18 75/22 81/21 82/12 83/12 86/3 86/17 87/15 92/5 93/2 95/13 95/22 96/20 97/8	upright [1] 60/8	updates [2] 12/21 34/19	ventricular [1] 66/23
	United [3] 53/22 55/2 55/5	uptake [15] 68/15 68/18 75/22 81/21 82/12 83/12 86/3 86/17 87/15 92/5 93/2 95/13 95/22 96/20 97/8	upright [1] 60/8	updates [2] 12/21 34/19	venues [1] 5/3
	unitless [1] 89/13	uptake [15] 68/15 68/18 75/22 81/21 82/12 83/12 86/3 86/17 87/15 92/5 93/2 95/13 95/22 96/20 97/8	upright [1] 60/8	updates [2] 12/21 34/19	venus [1] 83/13
	units [1] 10/24	uptake [15] 68/15 68/18 75/22 81/21 82/12 83/12 86/3 86/17 87/15 92/5 93/2 95/13 95/22 96/20 97/8	upright [1] 60/8	updates [2] 12/21 34/19	verifies [1] 34/13
	universities [2] 7/22 59/5	uptake [15] 68/15 68/18 75/22 81/21 82/12 83/12 86/3 86/17 87/15 92/5 93/2 95/13 95/22 96/20 97/8	upright [1] 60/8	updates [2] 12/21 34/19	verify [2]

V	26/22 60/21 60/23 60/25 78/2 78/4	wants [2] 18/16 20/20	17/24 27/24 32/23 39/19 39/21 40/22 47/14 48/8 50/14 57/6 57/9 61/12 66/11 69/9 69/14 74/25 75/4 78/24 84/8 91/1 92/12 97/3 98/18	5/10 6/2 7/5 7/24 9/23 10/1 10/1 10/10 10/13 37/14 39/4 46/25 47/2 57/21 66/19 68/12 69/24 70/12 70/17 72/7 72/19 72/23 73/20 74/9 75/3 80/20 81/8 81/21 85/8 85/11 91/7 97/2 98/13 101/11 102/10	42/5 42/6 43/25 45/7 45/16 46/19 47/17 49/17 50/15 51/21 51/23 52/2 54/17 55/2 61/4 61/8 61/20 62/14 62/17 64/24 65/7 65/10 65/15 66/17 67/25 69/2 73/13 75/7 77/4 78/5 78/25 79/2 79/9 80/13 81/19 84/3 84/13 86/3 89/10 89/25 93/17 94/5 95/5 95/17 99/13 100/8 100/13 100/21 103/22 104/1 105/16
verify... [2] 16/10 105/8	virtually [1] 5/18	was [83] 5/14 5/23 9/2 9/12 11/17 12/22 13/15 14/5 14/12 15/7 16/3 16/13 16/13 16/15 16/16 18/25 20/11 21/15 22/6 22/8 23/2 23/6	ways [4] 64/9 66/3 68/20 100/3	102/10	
versa [1] 101/5	vision [2] 91/14 91/17	visit [1] 9/17	we [187]	went [6] 20/8 24/7 27/21 31/1 59/7 84/6	
versus [4] 9/20 88/15 93/7 99/18	visitors [4] 9/4 9/7 9/24 12/19	visual [2] 94/15 95/1	we'll [5] 18/7 28/20 31/5 32/6 74/8	were [25] 13/17 15/4 15/11 16/3 16/6 16/11 16/12 16/17 16/17 18/24 21/13 25/12 26/16 42/9 44/7 46/3 47/5 70/23 71/11 72/13 72/15 75/19 87/8 88/7 90/1	what's [4] 33/21 35/8 66/23 103/1
vertical [2] 60/24 60/24	voyeurism [2] 42/20 42/22	VQ [1] 56/19	we're [35] 4/9 5/21 6/6 15/1 15/2 16/25 17/18 19/10 37/14 41/6 41/8 42/14 46/12 48/6 50/5 50/15 51/6 52/7 53/2 56/23 57/14 57/18 60/4 64/5 75/21 76/6 79/1 79/4 83/6 93/23 100/25 101/3 101/12 102/16 103/17	whatever [2] 8/24 9/25	whatnot [3] 13/23 75/23 92/15
very [48] 14/10 14/11 20/10 21/2 22/6 23/23 25/15 27/23 43/18 43/25 45/8 54/1 57/10 58/19 64/12 65/16 65/17 65/18 66/19 67/2 68/5 69/20 69/22 69/25 70/3 70/12 70/13 72/4 73/20 74/15 75/25 76/5 76/5 76/20 77/2 81/5 82/1 85/15 85/18 86/5 89/14 90/19 90/23 93/18 94/17 96/20 98/18 104/7	W	wait [2] 23/19 96/2	we're [35] 15/1 15/2 16/25 17/18 19/10 37/14 41/6 41/8 42/14 46/12 48/6 50/5 50/15 51/6 52/7 53/2 56/23 57/14 57/18 60/4 64/5 75/21 76/6 79/1 79/4 83/6 93/23 100/25 101/3 101/12 102/16 103/17	weren't [2] 44/19 45/22	wheel [1] 52/5
wait [2] 23/19 96/2	walked [1] 18/25	walking [1] 9/16	we've [11] 5/25 7/5 7/11 7/16 12/15 14/23 19/16 19/19 42/14 49/8 59/18	Wesley [1] 27/11	wheelhouse [1] 51/25
waited [1] 18/25	wall [1] 53/1	walls [1] 65/16	wedge [1] 78/13	Westshore [1] 1/11	when [41] 9/13 11/9 11/20 15/14 20/4 23/3 23/13 23/13 25/23 26/18 32/10 47/5 47/12 52/23 57/3 57/10 61/12 62/19 63/18 64/1 64/1 64/14 65/2 66/13 69/9 72/23
walked [1] 18/25	walsh [1] 24/2	Walsh [1] 24/2	week [1] 105/5	what [77] 4/5 6/5 7/3 8/8 8/16 8/20 8/21 8/22 10/18 10/19 14/4 18/5 18/17 21/4 21/10 24/15 26/1 27/8 28/20 30/4 33/24 34/5 35/10 35/10 38/12 40/9	were [25] 13/17 15/4 15/11 16/3 16/6 16/11 16/12 16/17 16/17 18/24 21/13 25/12 26/16 42/9 44/7 46/3 47/5 70/23 71/11 72/13 72/15 75/19 87/8 88/7 90/1
walking [1] 9/16	walt [2] 23/21 25/7	want [30] 4/2 4/3 6/4 29/18 38/17 38/18 42/15 42/25 43/8 49/18 49/22 50/2 51/10 51/12 57/3 57/10 62/14 64/15 75/11 76/16 77/17 86/15 88/14 93/24 98/4 102/9 102/11 102/12 104/6 105/7	weekend [1] 105/12	weren't [2] 44/19 45/22	were [25] 13/17 15/4 15/11 16/3 16/6 16/11 16/12 16/17 16/17 18/24 21/13 25/12 26/16 42/9 44/7 46/3 47/5 70/23 71/11 72/13 72/15 75/19 87/8 88/7 90/1
wall [1] 53/1	want [30] 4/2 4/3 6/4 29/18 38/17 38/18 42/15 42/25 43/8 49/18 49/22 50/2 51/10 51/12 57/3 57/10 62/14 64/15 75/11 76/16 77/17 86/15 88/14 93/24 98/4 102/9 102/11 102/12 104/6 105/7	wants [2] 47/4 81/17	well [35]	were [25] 13/17 15/4 15/11 16/3 16/6 16/11 16/12 16/17 16/17 18/24 21/13 25/12 26/16 42/9 44/7 46/3 47/5 70/23 71/11 72/13 72/15 75/19 87/8 88/7 90/1	were [25] 13/17 15/4 15/11 16/3 16/6 16/11 16/12 16/17 16/17 18/24 21/13 25/12 26/16 42/9 44/7 46/3 47/5 70/23 71/11 72/13 72/15 75/19 87/8 88/7 90/1
walls [1] 65/16	want [30] 4/2 4/3 6/4 29/18 38/17 38/18 42/15 42/25 43/8 49/18 49/22 50/2 51/10 51/12 57/3 57/10 62/14 64/15 75/11 76/16 77/17 86/15 88/14 93/24 98/4 102/9 102/11 102/12 104/6 105/7	wasn't [2] 47/4 81/17		were [25] 13/17 15/4 15/11 16/3 16/6 16/11 16/12 16/17 16/17 18/24 21/13 25/12 26/16 42/9 44/7 46/3 47/5 70/23 71/11 72/13 72/15 75/19 87/8 88/7 90/1	were [25] 13/17 15/4 15/11 16/3 16/6 16/11 16/12 16/17 16/17 18/24 21/13 25/12 26/16 42/9 44/7 46/3 47/5 70/23 71/11 72/13 72/15 75/19 87/8 88/7 90/1
Walsh [1] 24/2	want [30] 4/2 4/3 6/4 29/18 38/17 38/18 42/15 42/25 43/8 49/18 49/22 50/2 51/10 51/12 57/3 57/10 62/14 64/15 75/11 76/16 77/17 86/15 88/14 93/24 98/4 102/9 102/11 102/12 104/6 105/7	watch [6] 16/9 16/10 19/3 61/17 80/12 94/5		were [25] 13/17 15/4 15/11 16/3 16/6 16/11 16/12 16/17 16/17 18/24 21/13 25/12 26/16 42/9 44/7 46/3 47/5 70/23 71/11 72/13 72/15 75/19 87/8 88/7 90/1	were [25] 13/17 15/4 15/11 16/3 16/6 16/11 16/12 16/17 16/17 18/24 21/13 25/12 26/16 42/9 44/7 46/3 47/5 70/23 71/11 72/13 72/15 75/19 87/8 88/7 90/1
walt [2] 23/21 25/7	want [30] 4/2 4/3 6/4 29/18 38/17 38/18 42/15 42/25 43/8 49/18 49/22 50/2 51/10 51/12 57/3 57/10 62/14 64/15 75/11 76/16 77/17 86/15 88/14 93/24 98/4 102/9 102/11 102/12 104/6 105/7	way [25] 10/20 10/25		were [25] 13/17 15/4 15/11 16/3 16/6 16/11 16/12 16/17 16/17 18/24 21/13 25/12 26/16 42/9 44/7 46/3 47/5 70/23 71/11 72/13 72/15 75/19 87/8 88/7 90/1	were [25] 13/17 15/4 15/11 16/3 16/6 16/11 16/12 16/17 16/17 18/24 21/13 25/12 26/16 42/9 44/7 46/3 47/5 70/23 71/11 72/13 72/15 75/19 87/8 88/7 90/1
want [30] 4/2 4/3 6/4 29/18 38/17 38/18 42/15 42/25 43/8 49/18 49/22 50/2 51/10 51/12 57/3 57/10 62/14 64/15 75/11 76/16 77/17 86/15 88/14 93/24 98/4 102/9 102/11 102/12 104/6 105/7	wanted [5] 9/7 20/17 20/18 47/17 101/9			were [25] 13/17 15/4 15/11 16/3 16/6 16/11 16/12 16/17 16/17 18/24 21/13 25/12 26/16 42/9 44/7 46/3 47/5 70/23 71/11 72/13 72/15 75/19 87/8 88/7 90/1	were [25] 13/17 15/4 15/11 16/3 16/6 16/11 16/12 16/17 16/17 18/24 21/13 25/12 26/16 42/9 44/7 46/3 47/5 70/23 71/11 72/13 72/15 75/19 87/8 88/7 90/1
viability [3] 57/2 62/24 63/18	video [1] 42/21			were [25] 13/17 15/4 15/11 16/3 16/6 16/11 16/12 16/17 16/17 18/24 21/13 25/12 26/16 42/9 44/7 46/3 47/5 70/23 71/11 72/13 72/15 75/19 87/8 88/7 90/1	were [25] 13/17 15/4 15/11 16/3 16/6 16/11 16/12 16/17 16/17 18/24 21/13 25/12 26/16 42/9 44/7 46/3 47/5 70/23 71/11 72/13 72/15 75/19 87/8 88/7 90/1
viability [3] 57/2 62/24 63/18	view [3] 54/25 77/16 78/3			were [25] 13/17 15/4 15/11 16/3 16/6 16/11 16/12 16/17 16/17 18/24 21/13 25/12 26/16 42/9 44/7 46/3 47/5 70/23 71/11 72/13 72/15 75/19 87/8 88/7 90/1	were [25] 13/17 15/4 15/11 16/3 16/6 16/11 16/12 16/17 16/17 18/24 21/13 25/12 26/16 42/9 44/7 46/3 47/5 70/23 71/11 72/13 72/15 75/19 87/8 88/7 90/1
viable [2] 62/5 63/20	views [6]			were [25] 13/17 15/4 15/11 16/3 16/6 16/11 16/12 16/17 16/17 18/24 21/13 25/12 26/16 42/9 44/7 46/3 47/5 70/23 71/11 72/13 72/15 75/19 87/8 88/7 90/1	were [25] 13/17 15/4 15/11 16/3 16/6 16/11 16/12 16/17 16/17 18/24 21/13 25/12 26/16 42/9 44/7 46/3 47/5 70/23 71/11 72/13 72/15 75/19 87/8 88/7 90/1
vice [3] 2/2 29/7 101/5				were [25] 13/17 15/4 15/11 16/3 16/6 16/11 16/12 16/17 16/17 18/24 21/13 25/12 26/16 42/9 44/7 46/3 47/5 70/23 71/11 72/13 72/15 75/19 87/8 88/7 90/1	were [25] 13/17 15/4 15/11 16/3 16/6 16/11 16/12 16/17 16/17 18/24 21/13 25/12 26/16 42/9 44/7 46/3 47/5 70/23 71/11 72/13 72/15 75/19 87/8 88/7 90/1
Vice-chair [1] 29/7				were [25] 13/17 15/4 15/11 16/3 16/6 16/11 16/12 16/17 16/17 18/24 21/13 25/12 26/16 42/9 44/7 46/3 47/5 70/23 71/11 72/13 72/15 75/19 87/8 88/7 90/1	were [25] 13/17 15/4 15/11 16/3 16/6 16/11 16/12 16/17 16/17 18/24 21/13 25/12 26/16 42/9 44/7 46/3 47/5 70/23 71/11 72/13 72/15 75/19 87/8 88/7 90/1
Vice-Chairman [1] 2/2				were [25] 13/17 15/4 15/11 16/3 16/6 16/11 16/12 16/17 16/17 18/24 21/13 25/12 26/16 42/9 44/7 46/3 47/5 70/23 71/11 72/13 72/15 75/19 87/8 88/7 90/1	were [25] 13/17 15/4 15/11 16/3 16/6 16/11 16/12 16/17 16/17 18/24 21/13 25/12 26/16 42/9 44/7 46/3 47/5 70/23 71/11 72/13 72/15 75/19 87/8 88/7 90/1
video [1] 42/21				were [25] 13/17 15/4 15/11 16/3 16/6 16/11 16/12 16/17 16/17 18/24 21/13 25/12 26/16 42/9 44/7 46/3 47/5 70/23 71/11 72/13 72/15 75/19 87/8 88/7 90/1	were [25] 13/17 15/4 15/11 16/3 16/6 16/11 16/12 16/17 16/17 18/24 21/13 25/12 26/16 42/9 44/7 46/3 47/5 70/23 71/11 72/13 72/15 75/19 87/8 88/7 90/1
view [3] 54/25 77/16 78/3				were [25] 13/17 15/4 15/11 16/3 16/6 16/11 16/12 16/17 16/17 18/24 21/13 25/12 26/16 42/9 44/7 46/3 47/5 70/23 71/11 72/13 72/15 75/19 87/8 88/7 90/1	were [25] 13/17 15/4 15/11 16/3 16/6 16/11 16/12 16/17 16/17 18/24 21/13 25/12 26/16 42/9 44/7 46/3 47/5 70/23 71/11 72/13 72/15 75/19 87/8 88/7 90/1
views [6]				were [25] 13/17 15/4 15/11 16/3 16/6 16/11 16/12 16/17 16/17 18/24 21/13 25/12 26/16 42/9 44/7 46/3 47/5 70/23 71/11 72/13 72/15 75/19 87/8 88/7 90/1	were [25] 13/17 15/4 15/11 16/3 16/6 16/11 16/12 16/17 16/17 18/24 21/13 25/12 26/16 42/9 44/7 46/3 47/5 70/23 71/11 72/13 72/15 75/19 87/8 88/7 90/1

W	33/12 34/20 37/17 42/24 46/3 46/19 47/24 48/23 50/14 52/15 53/6 56/9 56/19 57/1 57/6 57/8 58/14 58/25 59/18 59/23 59/25 61/21 62/8 62/25 63/3 63/3 64/9 64/15 66/7 67/15 68/9 69/6 69/6 69/7 69/12 72/4 72/4 75/5 76/8 76/20 77/6 77/20 80/11 80/13 80/24 82/3 83/14 84/16 85/14 86/10 87/11 90/7 91/12 91/15 92/3 94/16 96/23 102/3	whoever [3] 34/9 50/7 105/22 whole [13] 5/4 6/11 7/24 8/9 8/10 8/13 9/8 9/12 11/3 34/8 41/8 61/4 75/1 whom [2] 25/8 27/21 whose [1] 23/12 why [13] 10/14 14/17 14/20 15/7 15/8 21/24 34/18 70/22 79/12 83/6 89/15 91/16 91/19 widgets [1] 17/5 wife [1] 23/15 will [35] 20/21 26/14 29/7 36/22 42/14 48/18 49/20 57/11 59/18 60/16 61/19 64/21 66/10 67/6 68/4 76/12 77/20 79/18 81/8 81/25 82/18 82/20 84/20 92/5 92/7 93/1 93/2 93/4 93/11 93/16 93/25 97/19 102/10 105/2 105/5 William [1] 2/5 Williams [1] 94/18 willing [1] 41/16 window [1] 87/16 wire [1] 9/22	within [3] 4/20 16/1 49/20 without [16] 26/5 26/6 30/9 54/12 55/21 65/12 68/14 70/10 72/5 86/19 94/1 94/1 96/10 97/23 101/23 103/1 women's [1] 42/23 won't [3] 45/3 52/13 78/8 wonderful [2] 30/1 30/14 words [3] 38/2 48/16 49/19 work [19] 11/15 12/4 12/11 23/22 24/6 26/19 26/20 27/22 33/15 39/6 41/9 41/16 51/3 52/16 56/6 67/6 68/12 87/7 87/12 worked [5] 22/17 24/8 53/16 67/9 72/19 working [5] 14/24 28/12 37/12 53/14 63/22 works [6] 21/6 21/6 23/15 69/9 69/14 92/11 workshop [1] 34/19 worry [1] 81/18 worth [3] 38/2 38/3 64/6 would [64]	10/14 10/14 11/14 12/8 15/13 15/14 15/15 15/19 17/3 19/1 19/14 26/20 29/16 31/3 32/9 33/24 34/3 37/10 39/7 39/14 39/23 40/1 40/21 43/7 43/16 43/17 43/24 44/3 44/8 45/8 46/9 46/11 46/17 56/6 62/3 64/2 64/5 65/1 66/4 67/9 72/4 74/17 78/12 78/15 78/16 89/18 90/3 92/10 92/17 100/24 101/23 101/24 101/25 102/6 102/11 102/21 102/21 102/22 102/23 104/23 105/10 105/11 105/20 106/1 would've [2] 26/4 43/3 wouldn't [9] 13/11 55/22 73/18 74/17 75/5 80/5 85/4 102/1 102/4 wound [1] 80/18 wrist [1] 8/13 write [1] 53/16 writing [1] 16/12 written [2] 34/2 34/4 Wroblewski [1] 2/4 wrong [1] 43/16 wrote [1]	32/21 X x-ray [13] 4/7 5/19 8/13 8/23 13/5 13/7 25/9 28/7 54/24 55/6 55/9 82/8 82/10 x-raying [1] 9/1 x-rays [2] 14/10 35/17 Xenon [3] 77/7 77/8 77/12 Xofigo [1] 85/13 XRF [3] 4/4 13/5 13/18
	while [6] 8/14 16/2 19/25 22/18 56/17 85/25 white [3] 75/10 90/17 91/9 who [27] 4/5 7/18 7/22 9/24 12/10 19/5 19/20 19/24 22/17 22/21 23/6 24/7 25/7 26/16 27/9 27/19 28/8 29/7 33/4 34/1 42/11 43/2 43/19 44/15 45/20 46/1 48/1 who's [5] 7/14 24/20 28/4 30/18 34/15			Y Yay [1] 21/6 yeah [58] 7/14 8/1 11/22 12/14 12/18 12/20 14/2 14/4 14/11 14/11 16/8 18/7 24/25 25/12 25/17 30/25 35/22 36/21 36/23 37/8 37/8 39/11 39/16 39/19 40/10 44/5 44/11 44/17 44/25 45/15 46/16 46/20 46/22 46/24 50/23 51/2 52/19 54/2 54/20 55/20 74/7 88/12 89/5 89/17 94/20 100/12 100/18 100/25 101/11 101/16 102/1 102/14 103/11 103/11 105/6 106/1 106/6	

Y	29/22 32/13			
yeah... [1]	36/3 36/5			
106/15	36/11 36/12			
year [14]	37/5 38/22			
17/4 17/8	38/23 48/9			
24/15 27/19	58/4 59/2 61/4			
38/7 41/16	61/13 64/14			
47/23 48/4	74/16 76/4			
48/5 50/1	78/5 88/2 88/4			
50/18 50/19	88/19 89/6			
50/25 59/20	100/15 103/21			
years [26]	103/25			
14/24 14/25	you've [5]			
17/2 19/6	10/21 21/15			
19/18 23/7	30/23 46/20			
23/25 24/8	93/8			
27/10 29/3	young [2]			
30/3 32/21	24/19 26/18			
35/13 45/19	younger [1]			
45/19 49/20	26/4			
50/2 50/7	your [52]			
50/22 59/19	9/23 15/24			
72/17 73/7	17/16 18/23			
80/25 83/3	22/11 29/5			
84/11 92/1	29/18 29/19			
Yep [2] 5/8	30/7 32/10			
26/12	32/12 32/13			
yes [8] 18/4	34/12 36/5			
30/24 39/25	37/12 47/25			
40/2 40/9	52/5 53/25			
43/13 51/8	54/6 54/15			
93/5	55/4 56/3 57/7			
yesterday [1]	59/3 60/2 63/5			
17/11	63/6 63/14			
yet [4] 44/21	63/24 66/10			
44/23 44/25	66/17 69/14			
85/23	70/20 75/12			
York [2]	78/6 78/10			
42/18 45/2	79/3 84/1 84/2			
you [478]	87/17 87/19			
you'll [10]	88/16 91/14			
17/24 21/24	92/3 92/4 96/7			
52/6 58/8 58/8	96/8 96/24			
71/6 78/7 83/1	100/14 101/22			
87/17 88/20	103/24 106/20			
you're [39]	Yttrium [1]			
5/10 5/11 8/9	71/18			
8/12 8/25 9/1	Yttrium-90			
9/12 10/5	[1] 71/18			
10/19 11/2	Z			
11/6 11/19	zero [1] 96/3			
14/16 21/4				