



# Campylobacteriosis Laboratory Testing

Lucy Frederick

Florida Department of Health Summer Intern

Leah Eisenstein, M.P.H.

Janet J. Hamilton, M.P.H.

# 2011 Cases



- Report date= Jan 1, 2011 to June 27, 2011
- 1,056 reported cases of campylobacteriosis associated with 1,120 attached laboratory results
- 203 total errors
- 18% error rate

# Types & Frequencies of Errors

---



- ❧ “Test” ≠ “Result Description”: 126/203 ~ **62%**
- ❧ “Test” ≠ “Dx Status” : 70/203 ~ **34%**
- ❧ “Outbreak Status” ≠ “Sporadic”: 7/203 ~ **3%**
  - ❧ Probable + No attached lab = “Outbreak Associated”

# Test ≠ Result Description



Accession #:

Investigator:

**Test:** Culture.Stool

**Specimen Site:** STOOL

Date Collected:  Received:

Lab Report Date:  Date Event: **06/23/2011**

**Result:** POSITIVE

Organism: **CAMPYLOBACTER** Species:

Result Description:

Observation Name:

**“Test” should be “Antigen Detection”**

# Indication of Antigen Testing in Multiple Ways

- ❧ “Campy by EIA” Final
- ❧ “Positive by Campylobacter AG”
- ❧ “Detected by EIA”
- ❧ “Presence of Campylobacter Antigen”
- ❧ “Campylobacter Antigen Positive”
- ❧ “Campylobacter Antigen Detected”
- ❧ “Campylobacter Antigen in Stool”
- ❧ “Campylob.Ag”

Test:	ANTIGEN DETECTION
Specimen Site:	CULTURE
Date Collected:	ISOLATION
Lab Report Date:	NOT GIVEN
Result:	OTHER
Organism:	TYPING
Result Description:	Culture.Stool
	ANTIBODY DETECTION
	Culture.Blood
	<b>ANTIGEN DETECTION</b>
	THIS IS ANTIGEN TESTING.

# EIA Antigen Lab Examples

Antigen=EIA



Example 1

Campylobacter Antigen  
Verified: 05/09/2011 11:57  
Campylobacter species detected by Antigen Immunoassay.  
PHI Disclosure Form: Additional information on this order  
County Health Dept., 1-592-795-6299 ext 225 117 NW HWY 28  
Florida Statutes Sec. 381.0031.  
\*\*\* PRELIMINARY REPORT \*\*\*  
Preliminary Report  
Verified: 05/09/2011 11:24  
Culture in progress

Example 2

Campylob.Ag  
Detected

Page created: Wednesday, May 11, 2011 11:04 AM For: AMGINF

Example 3

CAMPY by EIA Final  
POSITIVE Campylobacter Ag  
DETECTED BY EIA

Example 4

Source: STOOL  
Disease: POSSIBLE CAMPYLOBACTERIOSIS  
Suspected:  Confirmed:  
Result of Lab Test: CAMPYLOBACTER ANTIGEN POSITIVE

PLEASE ATTACH COPY OF LAB REPORT IF POSSIBLE  
Outpatient: ER Only: Inpatient: Observation:   
Food Handler/Health Care Worker/Day Care/School Association: \_\_\_\_\_  
COMMENTS:

# Culture Lab Examples

Culture=Isolation



Example 1

HEAVY GROWTH CAMPYLOBACTER JEJUNI  
NO OTHER FECAL PATHOGENS ISOLATED  
Stool Culture. 04/21/40 1518 CALLE  
NASSAU, READ BACK, 10/09/10 13:26.  
FOOTN  
DSINK001  
@ = Stool Culture Performed at Baptie

Example 2

Suspected: ~~Confirmed: X~~  
Result of Lab Test: CAMPYLOBACTER SP ISOLATED FROM  
STOOL CULTURE  
PLEASE ATTACH COPY OF LAB REPORT IF POSSIBLE  
Outpatient: ER Only: X Inpatient:  
Food Handler/Health Care Worker/Day Care/School Association:  
COMMENTS: /1 lab. lab. 04/21/40 AT Date: 1.4.2011

Example 3

STOOL CULTURE | Final  
CAMPYLOBACTER SPECIES ISOLATED  
STOOL CULTURE | Preliminary (changed)  
NO SALMONELLA/SHIGELLA/CAMPYLOBE  
FLESIOMONAS  
SHIGA TOXIN | Final  
Toxin 1 not detected. Toxin 2 not

# Improving “Dx Status”



- ❧ Laboratory tests received typically indicate “Antigen” or “Culture”
- ❧ Culture=Isolation
- ❧ Antigen=EIA

# “Culture” corresponds with “Isolation of *Campylobacter* from any clinical specimen”

Set DX Status Effective Date: 01/02/2011

## Campylobacteriosis

**Clinical Description**

An infection of that may result in diarrheal illness of variable severity.  
Diarrhea of any severity

**Laboratory Criteria for Diagnosis**

Isolation of *Campylobacter* from any clinical specimen

OR

Positive EIA stool test for *Campylobacter* sp.

**Case Classification**

**Confirmed:**  
A clinically compatible case that is laboratory confirmed.

**Probable:**  
A clinically compatible case that is epidemiologically linked to a confirmed case OR a clinically compatible case that has a positive stool EIA test, AND no other enteric pathogen is detected, if tested for (e.g. norovirus, rotavirus gastroenteritis, cyclosporiasis, cryptosporidiosis, salmonellosis, shigellosis, giardiasis, etc.), AND no stool culture result available for Campylobacteriosis.

Epidemiologically linked to a confirmed case

**Comments**

Do not report asymptomatic infections.

The use of non-culture methods as standalone tests for the direct detection of *Campylobacter* in stool appears to be increasing. There is limited data available about the performance characteristics of these assays. There are currently three different antigen-based, non-culture methods commercially available in the United States for direct detection of *Campylobacter* in stool and a fourth assay will soon go into clinical trial. Non-culture test positive specimens should be culture confirmed if possible.

**Set DX Status**

Selection that should be made with a positive “Culture” lab.



# “Antigen” corresponds with “Positive EIA stool test for *Campylobacter* sp.”



**Set DX Status** Effective Date: 01/02/2011

## Campylobacteriosis

**Clinical Description**  
An infection of that may result in diarrheal illness of variable severity.  
Diarrhea of any severity

**Laboratory Criteria for Diagnosis**

Isolation of *Campylobacter* from any clinical specimen

OR

Positive EIA stool test for *Campylobacter* sp.

**Case Classification**

**Confirmed:**  
A clinically compatible case that is laboratory confirmed.

**Probable:**  
A clinically compatible case that is epidemiologically linked to a confirmed case OR a clinically compatible case that has a positive stool EIA test, AND no other enteric pathogen is detected, if tested for (e.g. norovirus, rotavirus gastroenteritis, cyclosporiasis, cryptosporidiosis, salmonellosis, shigellosis, giardiasis, etc.), AND no stool culture result available for *Campylobacter*iosis.  
Epidemiologically linked to a confirmed case

**Comments**  
Do not report asymptomatic infections.

The use of non-culture methods as standalone tests for the direct detection of *Campylobacter* in stool appears to be increasing. There is limited data available about the performance characteristics of these assays. There are currently three different antigen-based, non-culture methods commercially available in the United States for direct detection of *Campylobacter* in stool and a fourth assay will soon go into clinical trial. Non-culture test positive specimens should be culture confirmed if possible.

**Set DX Status**

Selection that should be made with a positive test by “Antigen Detection.”

