

SUMMARY OF CONFIRMED INFECTIONS

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The November 2008 issue presents the laboratory diagnosis of some of the infectious diseases and the reference microbiology work done in this laboratory during October 2008 and new cases of syphilis in Milwaukee during October 2008. Information on the laboratory diagnosed mycobacterial infections in Wisconsin during September is also included.

Syphilis

Test	Total	Test	Total
RPR Reactive	4	TPPA Reactive	15
VDRL Reactive	36	Darkfield Positive	0

New Cases of Syphilis

Stage	Number of Cases	
	October 2008	October 2007
Primary syphilis	1	1
Secondary syphilis	4	3
Early latent	3	6
Late latent	2	0
Total	10	10

Median age: 32 yr; Age range: 18 – 56 yr

 Source: Wisconsin Division of Health

Gonorrhea Antimicrobial Susceptibility Testing

Number Tested	Decreased Susceptible (DS) / Resistant (R) Antibiotics			
	Ciprofloxacin	Ceftriaxone	Spectinomycin	Azithromycin
28	2 (R)	0	0	0

Isolates Other Than *N. gonorrhoeae*

Organism	Site	Number Isolates	Organism	Site	Number Isolates
<i>Ureaplasma urealyticum</i>	-	0	<i>Mycoplasma hominis</i>	Genital	4

Enteric Parasites Identified

Age	Sex	Parasite
39	F	<i>Blastocystis hominis</i>
20	F	<i>Blastocystis hominis</i>
22	M	<i>Blastocystis hominis</i>
5	F	<i>Blastocystis hominis</i>
28	M	<i>Blastocystis hominis</i>
17	F	<i>Blastocystis hominis</i>
3	F	<i>Blastocystis hominis</i>
50	F	<i>Blastocystis hominis</i>
3	F	<i>Endolimax nana</i>
31	M	<i>Endolimax nana</i>
43	M	<i>Endolimax nana</i>
8	F	<i>Entamoeba coli</i> <i>Giardia lamblia</i>
40	M	<i>Entamoeba coli</i> <i>Giardia lamblia</i>
12	M	<i>Entamoeba coli</i> <i>Trichuris trichiura</i>
43	F	<i>Entamoeba species</i>
16	M	<i>Giardia lamblia</i>
14	M	<i>Giardia lamblia</i>
4	F	<i>Giardia lamblia</i>
16	F	<i>Giardia lamblia</i>
4	M	<i>Giardia lamblia</i>
11	F	<i>Giardia lamblia</i>
37	F	<i>Giardia lamblia</i>
53	F	<i>Giardia lamblia</i>
21	F	<i>Giardia lamblia</i>
54	M	<i>Hookworm</i>
63	M	<i>Hookworm</i>
22	M	<i>Hookworm</i> <i>Trichuris trichiura</i>
44	M	<i>Strongyloides stercoralis</i>

Mycobacterial Infections

Age	Sex	Test Results			Identification
		Sputum Smear	Culture	DNA Probe	
53	M	+	+	+	<i>M. avium</i> complex
43	F	-	+	+	<i>M. avium</i> complex
45	M	-	+	+	<i>M. avium</i> complex
22	M	-	+	+	<i>M. avium</i> complex
72	M	-	+	ND	<i>M. abscessus</i>
		+	+	+	<i>M. tuberculosis</i>

Reference Cultures

Age	Sex	Source	Identification
53	F	Surface wound	<i>Bacillus megaterium</i>
60	M	Whole Blood	<i>Bacillus megaterium</i>
65	M	Whole Blood	<i>Bacillus</i> species NOT <i>Bacillus anthracis</i>
28	F	Stool	<i>Bacillus</i> species
27	F	Sputum	<i>Bordetella</i> species
6	M	Wound swab	<i>Brevundimonas diminuta</i>
82	F	Whole Blood	<i>Brevundimonas vesicularis</i>
19	F	Whole Blood	<i>Moraxella osloensis</i>
18	M	Throat	<i>Neisseria meningitidis</i>
84	F	Surface wound	<i>Neisseria weaveri</i>
21m	M	Stool	<i>Salmonella</i> Agona
73	M	Stool	<i>Salmonella enterica</i> subspecies IIIb (<i>diarizonae</i>)
6m	M	Stool	<i>Salmonella</i> Enteritidis
6m	M	Stool	<i>Salmonella</i> Enteritidis
25	M	Stool	<i>Salmonella</i> I 4,[5],12:i:-
82	M	Stool	<i>Salmonella</i> Newport
6	F	Stool	<i>Salmonella</i> Newport
65	F	Stool	<i>Salmonella</i> Oranienburg
38	F	Stool	<i>Salmonella</i> Oranienburg
32	M	Stool	<i>Salmonella</i> Poona
63	F	Stool	<i>Salmonella</i> Saintpaul
85	F	Stool	<i>Salmonella</i> Typhimurium
33m	M	Stool	<i>Shigella flexneri</i> type 1
15	M	Stool	<i>Shigella sonnei</i>
12m	F	Stool	<i>Shigella sonnei</i>
12	M	Stool	<i>Shigella sonnei</i>
31	M	Stool	<i>Shigella sonnei</i>

31m	M	Stool	<i>Shigella sonnei</i>
3	F	Stool	<i>Shigella sonnei</i>
57	F	Stool	<i>Shigella sonnei</i>
5	M	Stool	<i>Shigella sonnei</i>
29	F	Stool	<i>Shigella sonnei</i>
29	F	Stool	<i>Shigella sonnei</i>
25	F	Stool	<i>Shigella sonnei</i>
25	F	Stool	<i>Shigella sonnei</i>
4	M	Stool	<i>Shigella sonnei</i>
5	M	Stool	<i>Shigella sonnei</i>
31m	F	Stool	<i>Shigella sonnei</i>

Clinical Enteric Pathogens

Age	Sex	Pathogen
6	M	<i>Shigella sonnei</i>
11	F	<i>Shigella sonnei</i>
4	F	<i>Shigella sonnei</i>

Laboratory Diagnosed Mycobacterial Infections in Wisconsin during the month of September, 2008

<i>Mycobacterium</i> species		Brown	Dane	Eau Claire	Fond du Lac	Kenosha	La Crosse	Marathon	Milwaukee	Outagamie	Racine	Rock	Sheboygan	Waukesha	Winnebago	Wood	TOTALS
<i>M. tuberculosis</i> complex	Pulm		2	1					2			1	1				7
	Extra		1						1								2
Total <i>M. tuberculosis</i> complex		0	3	1	0	0	0	0	3	0	0	1	1	0	0	0	9
<i>M. avium</i> complex	Pulm		7		1	2	1		53	3	6	1		1	2		77
	Extra	1	3	1					1							1	7
<i>M. gordonae</i>	Pulm		2	1	1	1	2		10	1		1					19
	Extra																0
<i>M. chelonae-abscessus</i>	Pulm		2		1	1	1		5						1		11
	Extra								1							1	2
<i>M. fortuitum</i> group	Pulm		1					1	7							1	10
	Extra																0
<i>M. kansasii</i>	Pulm			1					1								2
	Extra																0
<i>M. marinum</i>	Pulm																0
	Extra																0
<i>M. mucogenicum</i>	Pulm								2								2
	Extra																0
<i>M. xenopi</i>	Pulm								1								1
	Extra																0
<i>M. bovis</i> BCG	Extra	1															1
<i>M. scrofulaceum</i>	Pulm								1								1
pigmented <i>Mycobacteria</i>	Pulm														1		1
TOTALS:		2	15	3	3	4	4	1	82	4	6	2	0	1	4	3	134

Extra-Pulmonary Sources of Isolation:

<i>M. tuberculosis</i> Extra-pulmonary:	1 paraspinal abscess, 1 neck mass
<i>M. avium</i> complex Extra-pulmonary:	1 face, 1 bone marrow, 1 urine, 1 blood, 1 bone, 1 stool, 1 chest tube
Other <i>Mycobacterium</i> species	<i>M. bovis</i> BCG: 1 arm; <i>M. chelonae/abscessus</i> : 1 foot, 1 nasal

M. tuberculosis complex First-Line Drug Susceptibility Testing*:

Drug Resistance	Number of Isolates
Susceptible to all first-line drugs	7
Resistant to both INH concentrations	1
Resistant to PZA, PZA indeterminant, or PZA pending	1 (<i>bovis</i>)
TOTAL	9

(*) Drugs tested: isoniazid=INH (0.2 ug/ml and 1.0 ug/ml), rifampin (1.0 ug/ml), ethambutol (5.0 ug/ml), and pyrazinamide=PZA (100 ug/ml).

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 Chief Molecular Scientist

Virus Isolations from Clinical Specimens

Age	Sex	Source	Symptoms	Agent
2wk	F	NP swab	Not Provided	Coxsackievirus A9
2mo	M	NP swab	Autopsy	Cytomegalovirus
20	M	Neck lesion	Not Provided	Varicella-Zoster Virus
19	M	Hip/back lesion	Not Provided	Varicella-Zoster Virus
22	M	Lesion swab	Rash	Varicella-Zoster Virus
21	F	Vulva swab	Not Provided	Molluscum contagiosum virus

Herpes Simplex Virus Isolations

Agent	Number of Isolates
Herpes Simplex type 1	12
Herpes Simplex type 2	11

Molecular Amplification and PCR

Agent	Method	Tested	Positive	% Positive
<i>Chlamydia trachomatis</i>	ProbeTec	842	122	14.5%
<i>Neisseria gonorrhoeae</i>	ProbeTec / GenProbe	1137	113	9.9%
Herpes Simplex Virus	Real-time PCR	1	1	100.0%
Influenza A/B	Real-time RT-PCR	4	0	0.0%
Mumps Virus	Real-time RT-PCR	5	0	0.0%

The MHD laboratory is currently performing DNA sequence-based microbial identification for selective reference bacteria and fungal isolates. This rapid, high throughput molecular assay targets 16S rRNA and the D2 region of the 26S rRNA genes for the detection of bacteria and fungal species. Please call the laboratory at (414) 286-3526 for further detail.

DNA Sequencing

Reference Microbe	Target gene	Final Identification
Bacteria	16S rRNA	<i>Edwardsiella</i> species
Bacteria	16S rRNA	<i>Enterococcus faecium</i>
Bacteria	16S rRNA	<i>Legionella pneumophila</i>
Bacteria	16S rRNA	<i>Brevundimonas</i> species
Bacteria	16S rRNA	<i>Bacteriodes fragilis</i>
Bacteria	16S rRNA	<i>Enterococcus faecalis</i>
Bacteria	16S rRNA	<i>Nocardia</i> species
Bacteria	16S rRNA	<i>Erysipelothrix</i> species
Bacteria	16S rRNA	<i>Capnocytophaga canimorsus</i>
Bacteria	16S rRNA	<i>Klebsiella pneumoniae</i>
Bacteria	16S rRNA	<i>Pseudomonas stutzeri</i>
Bacteria	16S rRNA	<i>Neisseria gonorrhoeae</i>
Bacteria	16S rRNA	<i>Enterobacter/Klebsiella</i> species
Bacteria	16S rRNA	<i>Escherichia coli</i>
Bacteria	16S rRNA	<i>Peptostreptococcus anaerobius</i>
Bacteria	16S rRNA	<i>Campylobacter coli/jejuni</i>
Bacteria	16S rRNA	<i>Morganella morganii</i>
Fungus	D2/26S rRNA	<i>Ceriporiopsis</i> species
Fungus	D2/26S rRNA	<i>Neurospora</i> species
Fungus	D2/26S rRNA	<i>Phanerochaete chrysosporium</i>
Fungus	D2/26S rRNA	<i>Penicillium rubrum</i>