City of Milwaukee Health Department Laboratory
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HEALTH DEPARTMENT
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SUMMARY OF CONFIRMED INFECTIONS

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May 2009 Vol. 14, No. 5

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The May 2009 issue presents the laboratory diagnosis of some of the infectious diseases and the reference microbiology work done in this laboratory during April 2009 and new cases of syphilis in Milwaukee during April 2009. Information on the laboratory diagnosed mycobacterial infections in Wisconsin during March 2009 is also included.

Legionnaires Disease

Patient		Test		
Age	Sex	Urine Antigen	Culture	DFA
58y	M	1	0	0

ND = Not done

Pertussis (Whooping cough)

Patient		Test		
Age	Sex	Real-time PCR	Culture	DFA
19	M	Not Detected	ND	ND
19	F	Not Detected	ND	ND

ND = Not done

Syphilis

Test	Total	Test	Total
RPR Reactive	2	TPPA Reactive	9
VDRL Reactive	16	Darkfield Positive	0

New Cases of Syphilis:

Stage	Number of Cases	
	April 2009	April 2008
Primary syphilis	1	1
Secondary syphilis	2	6
Early latent	3	1
Late latent	0	6
Total	6	14

Median age: 25 yr; Age range: 17-47 yr
Source: Wisconsin Division of Health

Gonorrhea Antimicrobial Susceptibility Testing

Number Tested	Decreased Susceptible (DS) / Resistant (R) Antibiotics			
	Ciprofloxacin	Ceftriaxone	Spectinomycin	Azithromycin
43	3	0	0	0

Isolates Other Than *N. gonorrhoeae*

Organism	Site	Number Isolates	Organism	Site	Number Isolates
Ureaplasma urealyticum	Genital	0	*Mycoplasma hominis*	Genital	2

Enteric Parasites Identified

Age	Sex	Parasite
22	M	*Blastocystis hominis*
47	M	*Blastocystis hominis*
		Entamoeba hartmanni
23	M	*Entamoeba coli*
29	M	*Entamoeba histolytica / Entamoeba dispar*
30mo	M	*Entamoeba coli*
		Giardia lamblia
8	M	*Giardia lamblia*
13	M	*Giardia lamblia*
18	F	*Giardia lamblia*
19	F	*Giardia lamblia*

Mycobacterial Infections

Age	Sex	Test Results			Identification
		Sputum Smear	Culture	DNA Probe	
48	M	-	+	+	*M. avium* complex
40	F	-	+	+	*M. avium* complex
53	M	-	+	+	*M. avium* complex
		-	+	+	*M. tuberculosis*
41	F	-	+	ND	*M. xenopi*
57	M	-	+	+	*M. tuberculosis*

Reference Cultures

Age	Sex	Source	Identification
44	M	Whole Blood	*Baciilus megaterium*
69	M	Whole Blood	*Bacillus* species, NOT *Bacillus anthracis*
13m	M	Whole Blood	*Kingella kingae*
48	F	Whole Blood	*Moraxella osloensis*
21	F	Genital	*Neisseria gonorrhoeae*

21	F	Genital	*Neisseria gonorrhoeae*
48	F	Genital	*Neisseria gonorrhoeae*
17	F	Genital	*Neisseria gonorrhoeae*
26	F	Genital	*Neisseria gonorrhoeae*
28	M	Genital	*Neisseria gonorrhoeae*
20	M	Genital	*Neisseria gonorrhoeae*
22	M	Genital	*Neisseria gonorrhoeae*
5	M	Whole Blood	*Neisseria meningitides* serogroup B
69	M	Surface Wound	*Ochrobactrum* species
56	F	Surface Wound	*Ralstonia* species
16	M	Stool	*Salmonella* Braenderup
91	F	Whole Blood	*Salmonella* Carrau
91	F	Urine	*Salmonella* Carrau
61	F	Stool	*Salmonella enterica* subspecies IV (houtenae)
74	F	Stool	*Salmonella* Enteritidis
45	M	Stool	*Salmonella* Enteritidis
79	F	Urine	*Salmonella* I 4,[5],12:i:-
86	M	Stool	*Salmonella* I 4,[5],12:i:-
85	F	Stool	*Salmonella* I 4,[5],12:i:-
23m	F	Stool	*Salmonella* I 4,[5],12:i:-
83	M	Stool	*Salmonella* Newport
26	M	Whole Blood	*Salmonella* Typhi
25	F	Stool	*Salmonella* Typhimurium
9	F	Stool	*Shigella boydii* type 1
23m	F	Stool	*Shigella sonnei*
25	F	Stool	*Shigella sonnei*
9	M	Stool	*Shigella sonnei*
12	F	Stool	*Shigella sonnei*
5	F	Stool	*Shigella sonnei*
6	M	Stool	*Shigella sonnei*
14	M	Stool	*Shigella sonnei*
87	M	Whole Blood	*Weissella confusa* (*Lactobacillus confuses*)

Clinical Enteric Pathogens

Age	Sex	Pathogen	Age	Sex	Pathogen
7	M	*Shigella sonnei*	5	M	*Shigella sonnei*
6	F	*Shigella sonnei*	18m	F	*Shigella sonnei*
6	F	*Shigella sonnei*	17	M	*Shigella sonnei*
9	F	*Shigella sonnei*			

Laboratory Diagnosed Mycobacterial Infections in Wisconsin during March 2009

***Mycobacterium* species**		**Brown**	**Dane**	**Eau Claire**	**Kenosha**	**La Crosse**	**Marathon**	**Milwaukee**	**Outagamie**	**Racine**	**Rock**	**Washington**	**Waukesha**	**Winnebago**	**Wood**	**TOTALS**
M. tuberculosis complex	Pulm	1	2					1								**4**
	Extra		1													**1**
Total *M. tuberculosis* complex		**1**	**3**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**
***M. avium* complex**	Pulm	1	3	2	3	1		52	1	1	3			5	1	**73**
	Extra						1								2	**3**
M. gordonae	Pulm		3		3	1		6			1					**14**
	Extra												1			**1**
M. chelonae-abscessus	Pulm		3	1				6							1	**11**
	Extra							4	1				1		1	**7**
M. fortuitum group	Pulm		1					2				1				**4**
M. kansasii	Pulm		1													**1**
M. mucogenicum	Pulm							3	1	1						**5**
	Extra							1								**1**
M. xenopi	Pulm							2								**2**
M. goodii	Extra		1													**1**
M. lentiflavum	Pulm						1	1								**2**
M. malmoense	Pulm										1					**1**
M. terrae complex	Pulm		1													**1**
Totals		**1**	**13**	**3**	**6**	**2**	**2**	**77**	**3**	**2**	**5**	**1**	**2**	**5**	**5**	**127**

Extra-Pulmonary Sources of Isolation:

M. tuberculosis Extra-pulmonary:	1 CSF
M. avium complex Extra-pulmonary:	1 salivary gland, 1 axilla, 1 cyst
M. gordonae Extra-pulmonary:	1 pleural fluid
Other *Mycobacterium* species	*M. chelonae/abscessus*: 2 scalp, 1 buttock, 2 foot, 1 abdomen, 1 wrist; *M. goodii*: 1 knee fluid; *M. mucogenicum*: 1 blood

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

Drug Resistance	**Number of Isolates**
Susceptible to all first-line drugs	3
Out of State (susceptible to all first line drugs)	2
TOTAL	5

(*) 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).

Source: Mycobacteriology Laboratory Network Data Report, WI State Laboratory of Hygiene, Madison, WI.

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Laboratory Director

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Chief Molecular Scientist

Virus Isolations from Clinical Specimens

Age	Sex	Source	Symptoms	Agent
23	F	Throat swab	Cough, sore throat, vomiting, nausea, fever, headache	Influenza A (H1)
22	M	Throat swab	URI, cough, sore throat	Influenza B
27	F	Throat swab	Cough, sore throat, fever, headache	Influenza B
48	M	NP swab	R/O influenza	Influenza B
23	F	Throat swab	Acute Respiratory Distress	Influenza B
22	M	Throat swab	Cough, myalgias, fever	Influenza B
74	M	NP swab	R/O influenza	Influenza B
19	M	Throat swab	Cough, fever	Influenza B
20	F	Throat swab	ARD, cough, fever, headache	Influenza B
20	M	Throat swab	Flu-like illness	Influenza B
2m	M	NP and Lung swabs	Autopsy	Rhinovirus
3	F	NP swab	Referred isolate	Rhinovirus
29	F	Labia	N/A	Varicella-zoster virus
21	M	Penis	N/A	Varicella-zoster virus

Herpes Simplex Virus Isolations

Agent	Number of Isolates
Herpes Simplex type 1	9
Herpes Simplex type 2	6

Molecular Amplification and PCR

Agent	Method	Tested	Positive	% Positive
Chlamydia trachomatis	ProbeTec	875	130	14.9%
Neisseria gonorrhoeae	ProbeTec / GenProbe	1101	64	5.8%
Norovirus	Real-time RT-PCR	18	7	38.9%
Influenza A/B	Real-time RT-PCR	71	9	12.7%

DNA Sequencing

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.

Reference Microbe	Target gene	Final Identification
Bacteria	16S rRNA	*Bacillus megaterium*
Bacteria	16S rRNA	*Elizabethkingia menigoseptica*
Bacteria	16S rRNA	*Kingella kingae*
Bacteria	16S rRNA	*Ochrobactrum* species
Bacteria	16S rRNA	*Stenotrophomonas* species
Bacteria	16S rRNA	*Weissella confusa*
Fungus	D2/26S rRNA	*Ajellomyces dermatitidis*
Fungus	D2/26S rRNA	*Beauveria bassiana*