

SUMMARY OF CONFIRMED INFECTIONS

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

Pertussis (Whooping cough)

Patient		Test		
Age	Sex	Real-time PCR	Culture	DFA
22	M	Not Detected	ND	ND
18	F	Not Detected	ND	ND
21	F	Not Detected	ND	ND
24	M	Not Detected	ND	ND
21	F	Not Detected	ND	ND
20	F	Not Detected	ND	ND

ND = Not done

Syphilis

Test	Total	Test	Total
RPR Reactive	0	TPPA Reactive	7
VDRL Reactive	21	Darkfield Positive	0

New Cases of Syphilis:

Stage	Number of Cases	
	March 2009	March 2008
Primary syphilis	1	1
Secondary syphilis	2	3
Early latent	2	5
Late latent	0	0
Total	5	9

Median age: 40 yr; Age range: 27-46 yr

Source: Wisconsin Division of Health

Gonorrhea Antimicrobial Susceptibility Testing

Number Tested	Decreased Susceptible (DS) / Resistant (R) Antibiotics			
	Ciprofloxacin	Ceftriaxone	Spectinomycin	Azithromycin
30	3 (R)	0	0	0

Isolates Other Than *N. gonorrhoeae*

Organism	Site	Number Isolates	Organism	Site	Number Isolates
<i>Ureaplasma urealyticum</i>	Genital	0	<i>Mycoplasma hominis</i>	Genital	1

Enteric Parasites Identified

Age	Sex	Parasite
23	F	<i>Blastocystis hominis</i>
20	F	<i>Blastocystis hominis</i>
29	M	<i>Endolimax nana</i>
6	F	<i>Giardia lamblia</i>
6	F	<i>Giardia lamblia</i>
33	F	<i>Giardia lamblia</i>

Mycobacterial Infections

Age	Sex	Test Results			Identification
		Sputum Smear	Culture	DNA Probe	
62	M	-	+	+	<i>M. avium</i> complex
39	F	-	+	+	<i>M. avium</i> complex
68	F	-	+	+	<i>M. avium</i> complex
68	F	-	+	+	<i>M. avium</i> complex
		-	+	ND	<i>M. abscessus</i>
55	F	-	+	+	<i>M. avium</i> complex
		-	+	ND	<i>M. abscessus</i>
70	M	+	+	+	<i>M. avium</i> complex
		+	+	+	<i>M. tuberculosis</i>
73	M	-	ND	+	<i>M. abscessus</i>
67	M	+	+	+	<i>M. tuberculosis</i>
57	M	+	+	+	<i>M. tuberculosis</i>

Reference Cultures

Age	Sex	Source	Identification
-	-	Fluid	<i>Arthrobacter</i> species
59	M	Ankle bone	<i>Bacillus cereus</i>

38	M	Blood	<i>Bacillus megaterium</i>
81	F	Blood	<i>Brevundimonas diminuta</i>
79	F	Blood	<i>Corynebacterium pseudodiphtheriticum</i>
40	F	Urine	<i>Escherichia coli</i>
57	M	Urine	<i>Klebsiella pneumoniae</i>
18	F	Throat	<i>Pseudomonas aeruginosa</i>
35	F	Stool	<i>Salmonella</i> Cubana
4m	F	Stool	<i>Salmonella</i> Ealing
9m	M	Stool	<i>Salmonella</i> Typhimurium
3	M	Stool	<i>Salmonella</i> Virchow
59	F	Stool	<i>Salmonella</i> Virchow
3	M	Stool	<i>Salmonella</i> Virchow
10m	M	Stool	<i>Shigella sonnei</i>
3	F	Stool	<i>Shigella sonnei</i>
17	M	Stool	<i>Shigella sonnei</i>
23	M	Stool	<i>Shigella sonnei</i>
35	M	Stool	<i>Shigella sonnei</i>
47	M	Surface wound	<i>Stenotrophomonas maltophilia</i>

Laboratory Diagnosed Mycobacterial Infections in Wisconsin during February 2009

Mycobacterium species		Brown	Dane	Eau Claire	Fond du Lac	Kenosha	La Crosse	Marathon	Milwaukee	Outagamie	Portage	Racine	Rock	Washington	Waukesha	Winnebago	Wood	TOTALS
<i>M. tuberculosis</i> complex	Pulm		1			1			7									9
	Extra		1						2									3
Total <i>M. tuberculosis</i> complex		0	2	0	0	1	0	0	9	0	0	0	0	0	0	0	0	12
<i>M. avium</i> complex	Pulm		7	1			1	2	38	2		1			1	6	3	62
	Extra		1						3	2					1			7
<i>M. gordonae</i>	Pulm	1	4						5		1		1		1			13
<i>M. chelonae-abscessus</i>	Pulm		2		1				2							1		6
	Extra						1		3						2			6
<i>M. fortuitum</i> group	Pulm		1						2					1		2		6
<i>M. kansasii</i>	Pulm								3									3
	Extra								1									1
<i>M. marinum</i>	Extra								2									2
<i>M. mucogenicum</i>	Pulm								2							1		3
<i>M. xenopi</i>	Pulm								4									4
<i>M. neoaurum</i>	Pulm								1									1
<i>M. smegmatis</i>	Pulm								1									1
TOTALS		1	15	1	1	0	2	2	67	4	1	1	1	1	5	10	3	115

Extra-Pulmonary Sources of Isolation:

M. tuberculosis Extra-pulmonary:	1 thoracentesis fluid, 1 pleural peel
M. avium complex Extra-pulmonary:	1 neck tissue, 1 hand, 1 cervical lymph node, 1 knee wound, 1 bone, 1 spinal fluid, 1 jaw abscess
Other <i>Mycobacterium</i> species:	<i>M. chelonae-abscessus</i> : 1 skin, 1 sinus, 1 leg, 1 AICD defibrillator pocket, 2 scalp; <i>M. kansasii</i> : 1 stool; <i>M. marinum</i> : 1 wrist, 1 thumb

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

Drug Resistance	Number of Isolates
Susceptible to all first-line drugs	11
Susceptibility testing pending	1
TOTAL	12

(*) 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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Virus Isolations from Clinical Specimens

Age	Sex	Source	Symptoms	Agent
12	M	NP swab	Confirm Influenza A	Influenza A (H3)
23	F	NP swab	Confirm Influenza A	Influenza A (H1)
19	M	Throat swab	Cough, sore throat, fever	Influenza A (H1)
18	F	Throat swab	URI, cough, vomiting	Influenza A (H1)
20	F	Throat swab	Cough, sore throat, fever, headache, back pain	Influenza A (H1)
23	F	Throat swab	Cough, fever, headache	Influenza A (H1)
21	F	Throat swab	R/O influenza	Influenza A (H1)
17	M	NP swab	Confirm influenza	Influenza A (H1)
22	M	Throat swab	Cough, sore throat, fever, headache	Influenza A (H1)
18	M	Throat swab	Influenza-like illness	Influenza A (H1)
18	M	Throat swab	Possible influenza	Influenza A (H1)
23	F	Throat swab	ARD, cough, fever, headache	Influenza A (H1)
19	M	Throat swab	Sore throat	Influenza A (H1)
20	M	Throat swab	Cough, vomiting, fever, headache	Influenza A (H1)
20	M	Throat swab	ARD, cough, sore throat, SOB, body aches, fever, headache	Influenza A (H1)
21	F	Throat swab	URI, cough, sore throat, nausea, fever, headache	Influenza A (H1)
23	M	NP swab	Confirm influenza A	Influenza A (H1)
19	F	Throat swab	Cough, myalgias, fever, headache	Influenza A (H1)
24	M	Throat swab	URI, cough, sore throat, fever, headache	Influenza A (H1)
20	M	Throat swab	Cough, sore throat, fever, headache	Influenza A (H1)
18	F	Throat swab	URI, Cough, sore throat, fever, headache	Influenza A (H1)
26	F	Throat swab	ARD, cough, fever, headache	Influenza A (H1)
18	M	Throat swab	Cough, fever, headache	Influenza A (H1)

20	F	Throat swab	ARD	Influenza A (H1)
22	F	Throat swab	ARD	Influenza A (H1)
22	F	Throat swab	ARD, cough, sore throat, fever	Influenza A (H1)
32	M	NP swab	Confirm influenza A	Influenza A (H1)
23	F	Throat swab	Cough, fever	Influenza A (H1)
22	M	Throat swab	ARD, cough, sore throat, fever, headache	Influenza A (H1)
23	F	Throat swab	ARD, sore throat, fever, headache	Influenza A (H1)
19	F	Throat swab	Bronchitis, URI, cough, sore throat, vomiting, fever, headache	Influenza A (H1)
20	F	Throat swab	Cough, myalgias, vomiting, fever, headache	Influenza A (H1)
20	F	Throat swab	Cough, sore throat, myalgias, fever, headache	Influenza A (H1)
21	F	Throat swab	ARD	Influenza A (H1)
21	F	Throat swab	Bronchitis, cough, fever	Influenza A (H1)
20	F	Throat swab	Confirm influenza	Influenza A (H1)
19	M	Buccal swab	URI, cough, sore throat, unilateral parotiditis; R/O mumps	Influenza A (H1)
30	F	Throat swab	Cough, sore throat, fever, headache	Influenza A (H1)
20	F	Throat swab	Cough, myalgias, fever, headache	Influenza A (H1)
21	F	Throat swab	Cough, sore throat, fever	Influenza A (H1)
10	F	NP swab	Confirm influenza B	Influenza B
18	F	Throat swab	Cough, headache	Influenza B
23	F	NP swab	Confirm weak influenza B	Influenza B
46	F	NP swab	Confirm influenza B	Influenza B
22	F	Throat swab	ARD	Influenza B
22	M	Throat swab	Cough, sore throat, fever, headache, myalgias	Influenza B
19	F	Throat swab	Cough, sore throat, fever	Influenza B
17	F	NP swab	Confirm influenza B	Influenza B
22	F	Throat swab	ARD, fever, headache	Influenza B
8	F	NP swab	Confirm influenza	Influenza B
14	F	NP swab	Confirm influenza	Influenza B
17	M	NP swab	Confirm influenza B	Influenza B
50	F	NP swab	Confirm influenza	Influenza B
20	M	Throat swab	Cough, sore throat, nausea, fever, myalgias	Influenza B
22	F	Throat swab	R/O influenza	Influenza B
21	M	Throat swab	Cough, sore throat, fever	Influenza B
28	M	Throat swab	Cough, fever	Influenza B
11	M	NP swab	Confirm influenza	Influenza B

18	F	Throat swab	Cough, sore throat, fever, myalgias	Influenza B
14	F	NP swab	Confirm influenza	Influenza B
5	M	NP swab	Confirm influenza	Influenza B
33	M	Throat swab	Cough, sore throat, fever	Influenza B
37	F	NP swab	Confirm influenza	Influenza B
22	M	Throat swab	URI, cough, sore throat, fever	Influenza B
20	F	Throat swab	URI, cough, headache	Respiratory Syncytial Virus (RSV)
93	M	NP swab	R/O influenza	Rhinovirus
22	M	Lower middle trunk lesion	Vesicular lesions	Varicella Zoster Virus (VZV)

Herpes Simplex Virus Isolations

Agent	Number of Isolates
Herpes Simplex type 1	3
Herpes Simplex type 2	15

Molecular Amplification and PCR

Agent	Method	Tested	Positive	% Positive
<i>Chlamydia trachomatis</i>	ProbeTec	756	104	13.8%
<i>Neisseria gonorrhoeae</i>	ProbeTec / GenProbe	981	58	5.9%
Norovirus	Real-time RT-PCR	5	2	40%
Mumps	Real-time RT-PCR	5	0	0%
Influenza A/B	Real-time RT-PCR	79	54	68.3%
Respiratory Syncytial Virus	Real-time RT-PCR	1	1	100%

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>Arthrobacter</i> species
Bacteria	16S rRNA	<i>Bacillus megaterium</i>
Bacteria	16S rRNA	<i>Brevundimonas diminuta</i>
Bacteria	16S rRNA	<i>Corynebacterium pseudodiphtheriticum</i>
Bacteria	16S rRNA	<i>Escherichia coli</i>
Bacteria	16S rRNA	<i>Pseudomonas aeruginosa</i>
Bacteria	16S rRNA	<i>Rhizobium radiobacter</i>
Bacteria	16S rRNA	<i>Rhizobium</i> species
Bacteria	16S rRNA	<i>Salmonella enterica</i>
Bacteria	16S rRNA	<i>Sanguibacter</i> species
Bacteria	16S rRNA	<i>Staphylococcus aureus</i>
Bacteria	16S rRNA	<i>Streptococcus pyogenes</i>