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SUMMARY OF CONFIRMED INFECTIONS

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The October 2010 issue presents the laboratory diagnosis of some of the infectious diseases and the reference Microbiology and Virology work done in this laboratory during September 2010 and new cases of syphilis in Milwaukee during September 2010. Information on the laboratory diagnosed mycobacterial infections in Wisconsin during July 2010 is also included.

Syphilis

Test	Total	Test	Total
RPR Reactive	4	TPPA Reactive	14
VDRL Reactive	18	Darkfield Positive	0

New Cases of Syphilis:

Stage	Number of Cases	
	September 2010	September 2009
Primary syphilis	0	1
Secondary syphilis	1	2
Early latent	0	2
Late latent	0	3
Total	1	8

Source: Wisconsin Division of Health

Gonorrhea Antimicrobial Susceptibility Testing

Number Tested	Decreased Susceptible (DS) / Resistant (R) Antibiotics			
	Ciprofloxacin	Cefixime	Ceftriaxone	Azithromycin
36	3	0	0	0

Isolates Other Than *N. gonorrhoeae*

Organism	Site	Number Isolates	Organism	Site	Number Isolates
Ureaplasma urealyticum	Genital	6	*Mycoplasma hominis*	Genital	5

Enteric Parasites Identified

Age	Sex	Parasite
36	F	*Blastocystis hominis*
18	M	*Blastocystis hominis*
17	F	*Blastocystis hominis*
		Entamoeba coli
16	M	*Blastocystis hominis*
		Entamoeba hartmanni
		Giardia lamblia
27	F	*Cryptosporidium* species
50	M	*Cryptosporidium* species
66	F	*Cryptosporidium* species
13	M	*Cryptosporidium* species
		Entamoeba histolytica/ Entamoeba dispar
		Giardia lamblia
		Iodamoeba buetschlii
45	M	*Endolimax nana*
24	F	*Endolimax nana*
10	M	*Endolimax nana*
13	F	*Endolimax nana*
		Giardia lamblia
34	M	*Endolimax nana*
		Giardia lamblia
4	M	*Entamoeba coli*
37	F	*Entamoeba coli*
11	M	*Entamoeba coli*
		Trichuris trichiura
9	F	*Giardia lamblia*
48	M	*Giardia lamblia*
5	M	*Giardia lamblia*
3	F	*Giardia lamblia*
15	M	Hookworm

Mycobacterial Infections

Age	Sex	Test Results			Identification
		Sputum Smear	Culture	DNA Probe	
74	M	-	+	+	*M. avium* complex
56	M	-	+	+	*M. avium* complex
52	F	-	+	+	*M. avium* complex
64	F	-	+	+	*M. tuberculosis* complex
25	F	+	+	+	*M. tuberculosis* complex

ND = Not done

Reference Cultures

Age	Sex	Source	Identification
22	M	Blood	*Bordetella holmseii*
17	F	Blood	*Neisseria meningitides* serogroup C
85	M	Lung tissue	*Nocardia asteroids* complex
72	F	Blood	*Ochrobactrum anthropi*
73	F	Stool	*Plesiomonas shigelloides*
79	F	Urine	*Salmonella* Cubana
26	M	Stool	*Salmonella* Enteritidis
38	F	Stool	*Salmonella* Enteritidis
81	F	Stool	*Salmonella* Newport
53	F	Stool	*Salmonella* Reading
6	M	Stool	*Shigella flexneri* type 3
14	F	Stool	*Shigella sonnei*
33	M	Surface wound	*Streptococcus anginosus* group
41	M	Peritoneal fluid	*Streptomyces* species

Antimicrobial Susceptibility of *Shigella sonnei*

Number Tested	Decreased Susceptibility (DS) / Resistant (R) Antibiotics		
	Ampicillin	Norfloxacin	Sulfamethoxazole-Trimethoprim (SXT)
1	1	0	1

Laboratory Diagnosed Mycobacterial Infections in Wisconsin during July, 2010

***Mycobacterium* species**		**Brown**	**Dane**	**Eau Claire**	**Fond du Lac**	**Kenosha**	**La Crosse**	**Manitowoc**	**Marathon**	**Milwaukee**	**Outagamie**	**Racine**	**Rock**	**Washington**	**Waukesha**	**Winnebago**	**Wood**	**TOTALS**
M. tuberculosis complex	Pulm		1		1					1								**3**
	Extra		1														1	**2**
Total *M. tuberculosis* complex		**0**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**5**
***M. avium* complex**	Pulm	1	4	1		2	1	1		36			1		5	2	3	**57**
	Extra	1																**1**
M. gordonae	Pulm		5	2	3		1		1	9	1	1	1	1		1	1	**27**
	Extra																	**0**
M. chelonae-abscessus	Pulm		3							5					1	1	1	**11**
	Extra									1								**1**
M. fortuitum *group*	Pulm		1							9		2				1		**13**
	Extra																	**0**
M. kansasii	Pulm		1				1											**2**
	Extra																	**0**
M. marinum	Pulm																	**0**
	Extra																	**0**
M. mucogenicum	Pulm																	**0**
	Extra									1								**1**
M. xenopi	Pulm	1								5								**6**
	Extra		1															**1**
M. lentiflavum	Pulm									1								**1**
M. malmoense	Pulm		1															**1**
M. terrae *complex*	Pulm									1								**1**
TOTALS		**3**	**16**	**3**	**3**	**2**	**3**	**1**	**1**	**68**	**1**	**3**	**2**	**1**	**6**	**5**	**5**	**123**

Extra-Pulmonary Sources of Isolation:

M. tuberculosis Extra-pulmonary:	1 L2 vertebral fluid, 1 pleural peel
M. avium complex Extra-pulmonary:	1 neck
Other *Mycobacterium* species	*M. chelonae/abscessus*: 1 scalp; *M. mucogenicum*: 1 blood, *M. xenopi*: 1 lymph node

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

Drug Resistance	**Number of Isolates**
Susceptible to all first-line drugs	4
Resistant to INH (0.2 ug/ml) only	1
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, W

Virus Isolations from Clinical Specimens

Age	Sex	Source	Symptoms	Agent
21	F	Throat	Fever, headache, URI, sore throat	Coxsackie Virus type A10
18	F	Throat	Sore throat, vesicular rash	Coxsackie Virus type A10
33	F	CSF	Referred isolate	Echovirus type 18
19	F	Throat	Fever, headache, URI, sore throat	Parainfluenza type 2
21	M	Throat	Fever, headache, cough, sore throat	Parainfluenza type 2
20	M	Throat and NP	Fever, headache, cough, sore throat, body aches	Rhinovirus
23	M	Chest	N/A	Varicella Zoster Virus
38	F	Labia majora	Vesicles	Varicella Zoster Virus
24	M	Throat	Fever, sore throat, lymphadenopathy	Herpes Simplex type 1
23	M	Throat	Fever, cough, sore throat	Herpes Simplex type 1
21	M	Throat	Fever, sore throat	Herpes Simplex type 1
22	M	Throat	Fever, sore throat	Herpes Simplex type 1

Herpes Simplex Virus Isolations

Agent	Number of Isolates
Herpes Simplex type 1	11
Herpes Simplex type 2	13

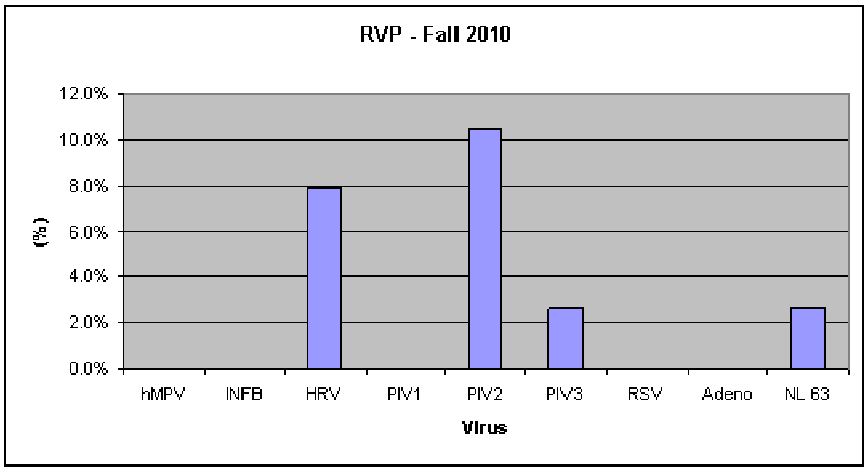
Molecular Amplification and PCR

Agent	Method	Tested	Positive	% Positive
Enterovirus	RT-PCR	3	3	100%
Influenza	RT-PCR	12	0	0%
Norovirus	RT-PCR	1	0	0%
Chlamydia trachomatis	ProbeTec	512	64	12.5%
Neisseria gonorrhoeae	ProbeTec/GenProbe	688	48	7.0%

Respiratory Virus Surveillance

Respiratory Virus Panel Test Results *(Updated Oct 2010)*		
Virus	**Positives**	**Percent**
Human Metapneumovirus (hMPV)	0	0.0%
Influenza B (INFB)	0	0.0%
Human Rhinovirus (HRV)	**3**	**7.9%**
Parainfluenza virus 1 (PIV1)	0	0.0%
Parainfluenza virus 2 (PIV2)	**4**	**10.5%**
Parainfluenza virus 3 (PIV3)	1	2.6%
Respiratory Syncitial Virus (RSV)	0	0.0%
Adenovirus Type E (Adeno E)	0	0.0%
Coronavirus NL63	1	2.6%

Samples tested: 38 (Sept 01 - to date)



DNA Sequencing: The MHD laboratory uses 16S rRNA and the D2 region of the 26S rRNA genes for DNA sequence-based microbial identification of selective reference bacteria and fungal isolates.

Reference Microbe	Target gene	Final Identification
Bacteria	16S rRNA	*Bordetella holmesii*
Bacteria	16S rRNA	*Haemophilus haemolyticus*
Bacteria	16S rRNA	*Nocardia cyriacigeorgica*
Bacteria	16S rRNA	*Rothia aeria*
Bacteria	16S rRNA	*Streptococcus constellatus*
Bacteria	16S rRNA	*Streptococcus intermedius*

****** IMPORTANT NEWS ******

Mycobacteriology at the MHD Laboratory

A Real-time PCR assay is currently available at the MHD Mycobacteriology laboratory for the detection of *Mycobacterium tuberculosis* complex (MTBC) from pulmonary specimens. The MTBC includes *M. tuberculosis, M. bovis, M. bovis* BCG, *M. africanum, M. microti, M. canettii, M. caprae*, and *M. pinnipedii*.

The MHD provides state-of-the-art TB lab services in it's biosafety level 3 (BSL-3) laboratory and uses conventional and rapid methods for the isolation, identification, and limited susceptibility testing of *M tuberculosis*, following Association of Public Health Laboratories (APHL) and the Centers for Disease Control and Prevention (CDC) guidelines.