

**Laboratory Reference Centre / Hamilton Regional Laboratory Medicine Program
TEST CHANGES EFFECTIVE NOVEMBER 28, 2012**

TEST	Notes	UNITS	New Tube Type	AGE	SEX	Reference interval
AFP	RI CHANGE AND EXPANSION	ug/L	NO CHANGE	0D	F	<5275
		ug/L		0D	M	<5275
		ug/L		0D	U	<5275
		ug/L		6M	F	<149
		ug/L		6M	M	<149
		ug/L		6M	U	<149
		ug/L		1Y	F	<22
		ug/L		1Y	M	<22
		ug/L		1Y	U	<22
		ug/L		3Y	F	<5
		ug/L		3Y	M	<5
		ug/L		3Y	U	<5
		ug/L		19Y	F	< 10
		ug/L		19Y	M	< 10
		ug/L		19Y	U	< 10
ALBUMIN	RI CHANGE AND EXPANSION	g/L	Hep-Plasma	0D	F	33-45
		g/L		0D	M	33-45
		g/L		0D	U	33-45
	SPECIMEN CONTAINER CHANGED TO HEPARINIZED PLASMA	g/L		15D	F	28-47
		g/L		15D	M	28-47
		g/L		15D	U	28-47
		g/L		1Y	F	38-47
		g/L		1Y	M	38-47
		g/L		1Y	U	38-47
		g/L		8Y	F	41-48
		g/L		8Y	M	41-48
		g/L		8Y	U	41-48
		g/L		15Y	F	40-49
		g/L		15Y	M	41-51
		g/L		19Y	F	35-50
		g/L		19Y	M	35-50
		g/L		19Y	U	35-50

TEST	Notes	UNITS	New Tube Type	AGE	SEX	Reference interval
ALKALINE PHOSPHATASE	RI CHANGE AND EXPANSION	U/L	Hep-Plasma	0D	F	90-273
		U/L		0D	M	90-273
		U/L		0D	U	90-273
		U/L		15D	F	134-518
		U/L		15D	M	134-518
		U/L		15D	U	134-518
		U/L		1Y	F	156-369
		U/L		1Y	M	156-369
		U/L		1Y	U	156-369
		U/L		10Y	F	141-460
		U/L		10Y	M	141-460
		ONLY HEPARINIZED PLASMA ACCEPTED		U/L	10Y	U
	U/L		13Y	F	62-280	
	U/L		13Y	M	127-517	
	U/L		15Y	F	54-128	
	U/L		15Y	M	89-365	
	U/L		17Y	F	48-95	
	U/L		17Y	M	59-164	
	U/L		19Y	F	40-120	
	U/L	19Y	M	40-120		
U/L	19Y	U	40-120			
VITAMIN B12	RI CHANGE	pmol/L	NO CHANGE	0D	F	138-652
		pmol/L		0D	M	138-652
		pmol/L		0D	U	138-652
BETA-HCG PREGNANCY	NEW TEST CLASSIFICATION	IU/L	Hep-Plasma	0D	F	<5
		IU/L		0D	U	<5
TOTAL BILIRUBIN	RI CHANGE AND EXPANSION	umol/L	NO CHANGE	6D	F	<285
		umol/L		6D	M	<285
		umol/L		6D	U	<285
		umol/L		15D	F	<13
		umol/L		15D	M	<13
		umol/L		15D	U	<13
		umol/L		1Y	F	<8
		umol/L		1Y	M	<8
		umol/L		1Y	U	<8
		umol/L		9Y	F	<10
		umol/L		9Y	M	<10
		umol/L		9Y	U	<10
		umol/L	12Y	F	<13	
		umol/L	12Y	M	<13	
		umol/L	12Y	U	<13	
		umol/L	15Y	F	<15	
		umol/L	15Y	M	<15	
		umol/L	15Y	U	<15	
		umol/L	19Y	F	<21	
		umol/L	19Y	M	<21	
umol/L	19Y	U	<21			

TEST	Notes	UNITS	New Tube Type	AGE	SEX	Reference interval
CALCIUM	RI EXPANSION	mmol/L	NO CHANGE	0D	F	2.12-2.74
		mmol/L		0D	M	2.12-2.74
		mmol/L		0D	U	2.12-2.74
		mmol/L		1Y	F	2.30-2.62
		mmol/L		1Y	M	2.30-2.62
		mmol/L		1Y	U	2.30-2.62
		mmol/L		19Y	F	2.15-2.55
		mmol/L		19Y	M	2.15-2.55
		mmol/L		19Y	U	2.15-2.55
CA -125	UNIT CHANGE	kU/L	NO CHANGE	0D	F	<= 35
		kU/L		0D	M	<= 35
		kU/L		0D	U	<= 35
CA-15-3	RI CHANGE	kU/L	NO CHANGE	10Y	F	<=30
		kU/L		10Y	M	<=30
		kU/L		10Y	U	<=30
CA-19-9	RI CHANGE	kU/L	NO CHANGE	0D	F	<=37
		kU/L		0D	M	<=37
		kU/L		0D	U	<=37
CEA	RI CHANGE	ug/L	NO CHANGE	0D	F	<= 5.0
		ug/L		0D	M	<= 5.0
		ug/L		0D	U	<= 5.0
CRP	RI CHANGE	mg/L	NO CHANGE	0D	F	<6.2
		mg/L		0D	M	<6.2
		mg/L		0D	U	<6.2
		mg/L		15D	F	<1.1
		mg/L		15D	M	<1.1
		mg/L		15D	U	<1.1
		mg/L		15Y	F	<1.8
		mg/L		15Y	M	<1.8
		mg/L		15Y	U	<1.8
		mg/L		19Y	F	<= 5.0
		mg/L		19Y	M	<= 5.0
		mg/L		19Y	U	<= 5.0

TEST	Notes	UNITS	New Tube Type	AGE	SEX	Reference interval
CREATININE	RI CHANGE AND EXPANSION	umol/L	Hep-Plasma	0D	F	37-93
		umol/L		0D	M	37-93
		umol/L		0D	U	37-93
		umol/L		15D	F	27-47
		umol/L		15D	M	27-47
	SPECIMEN CONTAINER CHANGED TO HEPARINIZED PLASMA	umol/L		15D	U	27-47
		umol/L		1Y	F	34-49
		umol/L		1Y	M	34-49
		umol/L		1Y	U	34-49
		umol/L		4Y	F	39-57
		umol/L		4Y	M	39-57
		umol/L		4Y	U	39-57
		umol/L		7Y	F	46-61
		umol/L		7Y	M	46-61
		umol/L		7Y	U	46-61
		umol/L		12Y	F	50-71
		umol/L		12Y	M	50-71
		umol/L		12Y	U	50-71
		umol/L		15Y	F	52-76
		umol/L		15Y	M	57-92
umol/L	17Y	F	53-78			
umol/L	17Y	M	61-97			
umol/L	19Y	F	50-98			
umol/L	19Y	M	64-111			
AMIKACIN, TROUGH	RI CHANGE	mg/L	NO CHANGE	0D	F	4.0 -8.0
		mg/L		0D	M	4.0 -8.0
		mg/L		0D	U	4.0 -8.0
AMIKACIN, PEAK	RI CHANGE	mg/L	NO CHANGE	0D	F	25.0 - 35.0
		mg/L		0D	M	25.0 - 35.0
		mg/L		0D	U	25.0 - 35.0
DIGOXIN	SPECIMEN CONTAINER CHANGED TO HEPARINIZED PLASMA		Hep-Plasma			
ESTRADIOL	RI CHANGE	pmol/L	NO CHANGE	0D	M	< 162
		pmol/L		0D	F	*SEE COMMENT
FRUCTOSAMINE	RI CHANGE AND EXPANSION	umol/L	NO CHANGE	0D	F	161-351
		umol/L		0D	M	118-282
FSH	RI CHANGE	IU/L	NO CHANGE	0D	F	0.3-11.5
		IU/L		0D	M	0.1-2.6
		IU/L		1Y	F	0.4-5.5
		IU/L		1Y	M	<0.9
		IU/L		9Y	F	0.4-4.2
		IU/L		5Y	M	<1.6
		IU/L		10Y	M	0.4-3.9
		IU/L		11Y	F	*SEE COMMENT
		IU/L		13Y	M	0.8-5.1
				16Y	F	delete age group
				16Y	M	delete age group
IU/L	19Y	M	1.0 - 12.0			

TEST	Notes	UNITS	New Tube Type	AGE	SEX	Reference interval			
GGT	RI CHANGE AND EXPANSION	U/L	Hep-Plasma	0D	F	23-219			
		U/L		0D	M	23-219			
		U/L		0D	U	23-219			
		U/L		15D	F	8-127			
		U/L		15D	M	8-127			
		U/L		15D	U	8-127			
		U/L		1Y	F	6-16			
	SPECIMEN CONTAINER CHANGED TO HEPARINIZED PLASMA	U/L		1Y	M	6-16			
		U/L		1Y	U	6-16			
		U/L		11Y	F	7-21			
		U/L		11Y	M	7-21			
		U/L		11Y	U	7-21			
		U/L		19Y	F	< 37			
		U/L		19Y	M	< 65			
		U/L		19Y	M	< 65			
		TOTAL HCG		NEW TEST CLASSIFICATION	IU/L	Hep-Plasma	0D	F	< 5.3
					IU/L		0D	M	< 2.5
LACTATE DEHYROGENASE (LD)	RI CHANGE AND EXPANSION	U/L	Hep-Plasma	0D	F	309-1222			
		U/L		0D	M	309-1222			
		U/L		0D	U	309-1222			
		U/L		15D	F	163-452			
		U/L		15D	M	163-452			
		U/L		15D	U	163-452			
		U/L		1Y	F	192-321			
	SPECIMEN CONTAINER CHANGED TO HEPARINIZED PLASMA	U/L		1Y	M	192-321			
		U/L		1Y	U	192-321			
		U/L		10Y	F	157-272			
		U/L		10Y	M	170-283			
		U/L		15Y	F	130-250			
		U/L		15Y	M	130-250			
		U/L		15Y	U	130-250			
		U/L		19Y	F	100-220			
		U/L		19Y	M	100-220			
		U/L		19Y	U	100-220			
LH	RI CHANGE	IU/L	NO CHANGE	0D	F	< 2.4			
		IU/L		0D	M	0.2-3.8			
		IU/L		3M	F	<1.2			
		IU/L		3M	M	<2.9			
		IU/L		1Y	F	<0.5			
		IU/L		1Y	M	<0.5			
		IU/L		10Y	F	*SEE COMMENT			
		IU/L		10Y	M	< 4.3			
		IU/L		13Y	M	<4.1			
		IU/L		15Y	M	0.8-4.8			
		IU/L		17Y	M	0.8-7.1			
		IU/L		19Y	M	0.6 - 12.1			
		LIPASE		RI CHANGE AND EXPANSION	U/L	NO CHANGE	0D	F	4-39
U/L	0D		M		4-39				
U/L	0D		U		4-39				
U/L	19Y		F		< 79				
U/L	19Y		M		< 79				
U/L	19Y		U		< 79				

TEST	Notes	UNITS	New Tube Type	AGE	SEX	Reference interval
MAGNESIUM	RI CHANGE AND EXPANSION	mmol/L	Hep-Plasma	0D	F	0.82-1.62
		mmol/L		0D	M	0.82-1.62
		mmol/L		0D	U	0.82-1.62
		mmol/L		15D	F	0.81-1.27
		mmol/L		15D	M	0.81-1.27
		mmol/L		15D	U	0.81-1.27
		ONLY HEPARINIZED PLASMA ACCEPTED		mmol/L	1Y	F
	mmol/L			1Y	M	0.86-1.17
	mmol/L			1Y	U	0.86-1.17
	mmol/L			19Y	F	0.66 - 1.07
	mmol/L			19Y	M	0.66 - 1.07
	mmol/L			19Y	U	0.66 - 1.07
	AMMONIA	RI CHANGE		umol/L	NO CHANGE	0D
umol/L			0D	M		18-72
umol/L			0D	U		18-72
PEDIATRIC AMMONIA	RI CHANGE	umol/L	NO CHANGE	0D	F	18-72
		umol/L		0D	M	18-72
		umol/L		0D	U	18-72
PEDIATRIC AMIKACIN, TROUGH	RI CHANGE	mg/L	NO CHANGE	0D	F	4.0 - 8.0
		mg/L		0D	M	4.0 - 8.0
		mg/L		0D	U	4.0 - 8.0
PEDIATRIC AMIKACIN, PEAK	RI CHANGE	mg/L	NO CHANGE	0D	F	25.0 - 35.0
		mg/L		0D	M	25.0 - 35.0
		mg/L		0D	U	25.0 - 35.0
PHOSPHATE	RI CHANGE AND EXPANSION	mmol/L	NO CHANGE	0D	F	1.81-3.39
		mmol/L		0D	M	1.81-3.39
		mmol/L		0D	U	1.81-3.39
		mmol/L		15D	F	1.55-2.71
		mmol/L		15D	M	1.55-2.71
		mmol/L		15D	U	1.55-2.71
		mmol/L		1Y	F	1.39-2.20
		mmol/L		1Y	M	1.39-2.20
		mmol/L		1Y	U	1.39-2.20
		mmol/L		5Y	F	1.32-1.91
		mmol/L		5Y	M	1.32-1.91
		mmol/L		5Y	U	1.32-1.91
		mmol/L		13Y	F	1.03-1.78
		mmol/L		13Y	M	1.13-2.00
		mmol/L		16Y	F	0.94-1.61
		mmol/L		16Y	M	0.94-1.61
		mmol/L		16Y	U	0.94-1.61
		mmol/L		19Y	F	0.80-1.45
		mmol/L		19Y	M	0.80-1.45
		mmol/L		19Y	U	0.80-1.45
PROGESTERONE	RI CHANGE	nmol/L	NO CHANGE	10Y	M	< 0.7
		nmol/L		10Y	F	*SEE COMMENT

TEST	Notes	UNITS	New Tube Type	AGE	SEX	Reference interval
PROLACTIN	RI CHANGE AND EXPANSION	ug/L	NO CHANGE	0D	F	12.6-212.8
		ug/L		0D	M	12.6-212.8
		ug/L		0D	U	12.6-212.8
		ug/L		30D	F	6.3-113.7
		ug/L		30D	M	6.3-113.7
		ug/L		30D	U	6.3-113.7
		ug/L		1Y	F	4.2-23
		ug/L		1Y	M	4.2-23
		ug/L		1Y	U	4.2-23
		ug/L		19Y	F	< 21
		ug/L		19Y	M	< 15
		ug/L		19Y	U	*SEE COMMENT
		PTH INTACT		RI CHANGE	pmol/L	NO CHANGE
pmol/L	0D		M		1.6 - 7.2	
pmol/L	0D		U		1.6 - 7.2	
T3F	ONLY HEPARINIZED PLASMA ACCEPTED					
T4F	RI CHANGE AND EXPANSION	pmol/L	NO CHANGE	0D	F	13.5-41.3
		pmol/L		0D	M	13.5-41.3
		pmol/L		0D	U	13.5-41.3
		pmol/L		15D	F	8.7-32.5
		pmol/L		15D	M	8.7-32.5
		pmol/L		15D	U	8.7-32.5
		pmol/L		30D	F	11.4-21.9
		pmol/L		30D	M	11.4-21.9
		pmol/L		30D	U	11.4-21.9
		pmol/L		1Y	F	11.4-17.6
		pmol/L		1Y	M	11.4-17.6
		pmol/L		1Y	U	11.4-17.6
		pmol/L		19Y	F	9.0 - 19.0
		pmol/L		19Y	M	9.0 - 19.0
		pmol/L		19Y	U	9.0 - 19.0
TOTAL PROTEIN	RI CHANGE AND EXPANSION	g/L	NO CHANGE	0D	F	53-83
		g/L		0D	M	53-83
		g/L		0D	U	53-83
		g/L		15D	F	44-71
		g/L		15D	M	44-71
		g/L		15D	U	44-71
		g/L		1Y	F	61-75
		g/L		1Y	M	61-75
		g/L		1Y	U	61-75
		g/L		6Y	F	64-77
		g/L		6Y	M	64-77
		g/L		6Y	U	64-77
		g/L		9Y	F	65-81
		g/L		9Y	M	65-81
		g/L		9Y	U	65-81
		g/L		19Y	F	60-80
		g/L		19Y	M	60-80
		g/L		19Y	U	60-80

TEST	Notes	UNITS	New Tube Type	AGE	SEX	Reference interval
TRANSFERRIN	RI CHANGE AND EXPANSION	g/L	NO CHANGE	0D	F	1.04-2.24
		g/L		0D	M	1.04-2.24
		g/L		63D	F	1.07-3.24
		g/L		63D	M	1.07-3.24
		g/L		1Y	F	2.20-3.37
		g/L		1Y	M	2.20-3.37
		g/L		19Y	F	1.80 - 3.82
		g/L		19Y	M	1.74 - 3.64
TROPONIN I	NEW TEST REPLACING TROPONIN T	ug/L	Hep-Plasma	0D	F	< 0.04
		ug/L		0D	M	<0.04
		ug/L		0D	U	<0.04
TRANSFERRIN SATURATION	NEW TEST (Calculation)	Fract		0D	F	0.20-0.50
				0D	M	0.20-0.50
				0D	U	0.20-0.50
TSH	RI CHANGE	mU/L	Hep-Plasma	0D	F	0.8-6.2
		mU/L		0D	M	0.8-6.2
		mU/L		0D	U	0.8-6.2
		mU/L		14D	F	0.47-3.41
		mU/L		14D	M	0.47-3.41
		mU/L		14D	U	0.47-3.41
		mU/L		19Y	F	0.35 - 4.9
		mU/L		19Y	M	0.35 - 4.9
mU/L	19Y	U	0.35 - 4.9			
TT3	RI CHANGE AND EXPANSION	nmol/L	NO CHANGE	0D	F	1.3-6.3
		nmol/L		0D	M	1.3-6.3
		nmol/L		0D	U	1.3-6.3
		nmol/L		1Y	F	1.7-2.9
		nmol/L		1Y	M	1.7-2.9
		nmol/L		1Y	U	1.7-2.9
		nmol/L		12Y	F	1.5-2.7
		nmol/L		12Y	M	1.5-2.7
		nmol/L		12Y	U	1.5-2.7
		nmol/L		15Y	F	1.4-2.2
		nmol/L		15Y	M	1.5-2.4
		nmol/L		15Y	U	*SEE COMMENT
		nmol/L		17Y	F	1.6-2.1
		nmol/L		17Y	M	1.6-2.1
		nmol/L		17Y	U	1.6-2.1
		nmol/L		19Y	F	0.9 - 2.4
		nmol/L		19Y	M	0.9 - 2.4
		nmol/L		19Y	U	0.9 - 2.4

TEST	Notes	UNITS	New Tube Type	AGE	SEX	Reference interval
URATE	RI CHANGE AND EXPANSION	umol/L	Hep-Plasma	0D	F	167-755
		umol/L		0D	M	167-755
		umol/L		0D	U	167-755
		umol/L		15D	F	95-375
		umol/L		15D	M	95-375
		umol/L		15D	U	95-375
		umol/L		1Y	F	107-291
	ONLY HEPARINIZED PLASMA ACCEPTED	umol/L		1Y	M	107-291
		umol/L		1Y	U	107-291
		umol/L		12Y	F	155-351
		umol/L		12Y	M	155-452
		umol/L		19Y	F	155 - 357
		umol/L		19Y	M	208 - 428
		umol/L		19Y	M	208 - 428
UREA	RI CHANGE AND EXPANSION	mmol/L	Hep-Plasma	0D	F	1.0-8.2
		mmol/L		0D	M	1.0-8.2
		mmol/L		0D	U	1.0-8.2
		mmol/L		15D	F	1.2-6.0
		mmol/L		15D	M	1.2-6.0
		mmol/L		15D	U	1.2-6.0
		mmol/L		1Y	F	3.2-7.9
	ONLY HEPARINIZED PLASMA ACCEPTED	mmol/L		1Y	M	3.2-7.9
		mmol/L		1Y	U	3.2-7.9
		mmol/L		10Y	F	2.6-6.8
		mmol/L		10Y	M	2.6-7.5
		mmol/L		19Y	F	2.5 - 6.7
		mmol/L		19Y	M	3.2 - 7.4
		mmol/L		50Y	F	3.5 - 7.2
mmol/L	50Y	M	3.0 - 9.2			
SODIUM	ONLY HEPARINIZED PLASMA ACCEPTED					
POTASSIUM	ONLY HEPARINIZED PLASMA ACCEPTED					
CHOLRIDE	ONLY HEPARINIZED PLASMA ACCEPTED					
TROPONIN T	NO LONGER ORDERABLE					

***COMMENTS**

Estradiol Female Reference Interval Comment

- Follicular: 77 - 921 pmol/L
- Mid Cycle: 139 - 2382 pmol/L
- Luteal: 77 - 1145 pmol/L
- Post Menopausal (no HRT): < 103 pmol/L
- Post Menopausal (on HRT): < 529 pmol/L

FSH Female Reference Interval Comment

- Follicular: 3.0 - 8.1 IU/L
- Mid-cycle: 2.6 - 16.7 IU/L
- Luteal: 1.4 - 5.5 IU/L
- Postmenopausal: 26.7 - 133.4 IU/L

TEST	Notes	UNITS	New Tube Type	AGE	SEX	Reference interval
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LH Female Reference Interval Comment

Follicular: 1.8 - 11.8 IU/L
 Mid-cycle: 7.6 - 89.1 IU/L
 Luteal: 0.6 - 14.0 IU/L
 Postmenopausal: 5.2 - 62.0 IU/L

PROGESTERONE Female Reference Interval Comment

Female PROGESTERONE reference interval varies with menstrual cycle.

Follicular phase: < 1.0 nmol/L
 Luteal phase: 3.8 - 50.6 nmol/L
 Postmenopausal: < 0.7 nmol/L
 1st Trimester: 8.9 – 468.4 nmol/L
 2nd Trimester: 71.6 – 303.1 nmol/L
 3rd Trimester: 88.7 – 771.2 nmol/L

Note: For Prolactin and Total T3 orders where the patient's gender is Unknown ('U') we comment with the ranges for both male and female.

Revised date: Nov 21, 2012

Changes to Test Parameters - Specimen containers and Reference Intervals Memo - Nov 14, 2012