

QML PATHOLOGY

newsletter September 08

>>Thrombotic Disorders and Thrombophilia in Pregnancy Dr Peter Davidson, Pathologist in Charge, Haematology

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>> Thrombotic Disorders and Thrombophilia in Pregnancy

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Thrombotic disorders or potential thrombotic disorders are not an uncommon problem in pregnancy.

There are number of ways these can manifest.

Clinical manifestations:

1) Maternal venous thromboembolism (VTE) - DVT/PE.

Pregnancy specific complications:

2) Foetal loss

- a. Early pregnancy loss - recurrent miscarriage before second trimester
- b. Mid pregnancy loss - second trimester miscarriage
- c. Late pregnancy loss - IUFD/Stillbirth

3) IUGR

4) Antepartum haemorrhage

5) PET.

These conditions may be caused by the interaction of a number of factors. Sometimes the aetiology is obscure and it is then that looking for a thrombophilic defect should be considered. There are several defects that have been implicated in obstetric/pregnancy complications.

Important Thrombophilic Defects to Consider in Pregnancy:

Acquired thrombophilia:

- Antiphospholipid antibody syndrome.

Inherited thrombophilia:

- Antithrombin deficiency
- Protein C deficiency
- Protein S deficiency
- Factor V Leiden (FVL)
- APC resistance - non Leiden mutations
- Prothrombin G20210A
- Dysfibrinogenemias (rare).

Venous Thrombo-embolic (VTE) Disorders in Pregnancy

Both DVT and PE are events that occur more frequently in pregnancy than in the non-pregnant state.

There are a number of reasons for this - firstly with increasing oestrogen there is an increase in the clotting factors especially Factor VIII and vWF; fibrinogen is also increased. Secondly, some of the natural anti-coagulants such as Protein S fall. Thirdly, venous flow in the legs alters due to

the effect of IVC compression by the enlarging womb and the hormonal effects on the veins making varicosities worse. Various studies have reported that the left leg is involved more often than the right. Yet, others have noted the reverse. The clinical features are similar to the non-pregnant state; though determining if ankle swelling is normal or abnormal for that pregnancy can be difficult.

Diagnosis of suspected VTE should follow the normal routine, but some pointers should be remembered:

- Leg Doppler - most useful
- D-Dimer - possibly limited use in pregnancy unless early pregnancy, as D-Dimers are often positive in pregnancy, especially with increasing gestation age.

(Remember the D-Dimer's usefulness is in its negative predictive value - if it is negative then the likelihood of a thrombosis is low).

- If PE is suspected, diagnosis may require V/Q scan or CTPA. Both can result in similar amounts of radiation dose to the foetus (100uGy). Although, radiation exposure to the foetus cannot be ignored, the risk of detriment is very low. The risk of foetal death is much greater if the mother has untreated PE. None the less the strategy outlined below can limit exposure (See diagram 1).

In discussing the problems of VTE with patients, and deciding which therapeutic option is best, it may be useful to consider some etiologic and epidemiologic facts:

Epidemiology

The risk and incidence of VTE events in sub-populations of females aged 15-44 years.

Non-pregnant young females - non-smokers, no OCP use

■ Incidence = 0.1/1000 women-years

Non-pregnant young females - combined OCP use

■ Incidence = 0.3/1000 women-years

Antepartum pregnant females

■ Incidence = 0.4-1.0/1000 pregnant-women-years (i.e. up to 0.1%)

■ This is modestly higher than age-matched non-pregnant controls (0.1-0.4/1000 person-years)

■ Leiden Thrombophilia Study (1995) found 4x increase risk due to pregnancy

Post-partum females

■ Risk is greater than during pregnancy

■ 1.0-6.1/1000 deliveries

■ Rate of VTE is estimated to be 3-8x greater post-partum than antepartum

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Diagram 1: Pregnant patient with suspected PE e.g. chest pains or dyspnoea

- Assess clinical probability of VTE based on history (including family history) and examination (including ECG)
- Order D-Dimer (urgent)

	D-Dimer Negative	D-Dimer Positive
Clinical Probability LOW	PE is unlikely (<3% Chance) - Clinical monitoring	PE cant be excluded - consider proceeding to radiology
Clinical Probability HIGH	PE has not be ruled out - proceed to radiology	PE possible - proceed to radiology

Radiology

Initial Screen - Bilateral Leg to groin Doppler

If Doppler negative proceed to CTPA or V/Q scan.
CTPA is preferred due to better discrimination value.
BUT V/Q may be required in patients with contrast allergy or renal failure - if V/Q scan is required perform a Perfusion (Q) scan first and only perform a ventilation scan if the Q scan is abnormal.

If DVT present treat as PE/DVT with formal anticoagulation + Consider a 'baseline' CTPA after delivery.

NOTE: Thrombophilia testing has NO role to play in the initial DIAGNOSIS of VTE - it is not a diagnostic test- it does not tell you whether the patient HAS or HAS NOT got a PE. Once a PE is confirmed screening of risk factors can be considered appropriate.

Table 1: Increased VTE Risk Associated with Hereditary Thrombophilia Defects

	Relative Risk	Prevalence	Probability of VTE in pregnancy/puerperium without personal or family histories of VTE (%)
• Coagulation inhibitor deficiencies	10x		
- Protein C (<50%)	10x	0.5%	1-2%
- Protein S			1-6%
- Antithrombin III (AT) (<60%) (NB - Rare, so risk estimates difficult to assess and vary widely; AT is most severe)	100x	0.02%	3-7%
• Factor V Leiden carrier	5-8x	4%	0.3%
• Factor V Leiden Homozygote	25x	0.04%	1.5%
• PT G20210A carrier	2-3x	3%	0.4%
• PT G20210A Homozygote		0.03%	2.8%
• Compound FVL/PT G20210A	15-25x	0.10%	4.7%
• MTHFR mutation/Hyperhomocysteine	1-2x		
• Increased F VIII (>250%)	3-4x		
Prior VTE	3-4x		

The risk of developing a VTE is higher in the post-partum period. There are other risk factors at play in an individual patient that may push the overall risk even higher than the baseline population risk, resulting in more frequent episodes of VTE in the antenatal period.

Some of these may be acquired, but hereditary risk factors are also important.

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Important Risk Factors for VTE in Pregnancy:

- Thrombophilias (variable risk - see table 1)
- Prior VTE
- Caesarean section
- Obesity (BMI > 30)
- Higher parity
- Maternal age (> 30 years)
- Smoking (dose related risk).

Obstetric Complications

Foetal Loss:

There are many synonyms for foetal loss - spontaneous miscarriage; spontaneous abortion; intra-uterine foetal death; stillbirth. Different causes are responsible at each stage of the pregnancy.

Aetiological factors include:

- Genetic
- Uterine malformations
- Maternal medical disease
- Anti-paternal antigen antibodies
- Drugs
- Toxins
- Antiphospholipid syndrome
- Thrombophilias.

Inherited thrombophilias were shown to be more important causes of second trimester and late pregnancy loss than early first trimester miscarriage. The relative risk of mid-late foetal loss increases 3-4 fold in the presence of a thrombophilia, and the risk can increase 10-15 fold if 2 or more thrombophilic defects are present.

PET

If the pregnancy induced hypertension (PIH) is mild there is no association.

However, in severe PIH or pre-eclampsia 65% of women had thrombophilia defects compared with 18% of controls. The relative risk of severe PET increases 8 fold in the presence of a thrombophilia.

Note that in severe PET, antithrombin (AT) may be consumed and levels may appear lower than true values, and a diagnosis of AT deficiency should not be made without confirmation unless the AT levels are moderately or markedly reduced below 60%.

ABRUPTION

The relative risk of placental abruption increases 5 fold in the presence of a thrombophilia.

IUGR

The relative risk of intra-uterine foetal growth retardation is increased 2 fold in the presence of a thrombophilia.

The mechanism by which thrombophilia is involved in these complications possibly relates to damage of the utero-placental vascular bed - whether thrombosis of the larger vessels or possibly damage to the endothelium of the smaller vessels. This may lead to focal necrosis and haemorrhage, or may stimulate a wider activation of the blood-endothelial interactions.

Management of Possible Thrombophilic Disorders in Pregnancy

- 1) Screening for potential underlying thrombophilic states where appropriate.
- 2) Treatment - either for prophylaxis of at risk patients or treatment of a complication.

Screening for Thrombophilia States

1) Who to Screen

Based on the studies the recommendations are:

- Personal history of a thrombosis
- Family history of DVT or pulmonary embolism
- Family history of strokes <60 years of age or MI <60 years in women
- Personal history of abruption, severe IUGR, severe or early pre-eclampsia <32 weeks
- Family or Personal history of:
 - Three pregnancy losses <10 weeks
 - Two losses >10 weeks, <20 weeks
 - Any unexplained loss >20 weeks.

2) What to Screen

- Protein C (functional assay)
- Protein S (functional or free level)
- Antithrombin III (functional assay)
- Factor V Leiden mutation (PCR)/APC-R
- Prothrombin 20210A mutation (PCR)
- Anticardiolipin antibodies, IgG, IgM
- Lupus anticoagulant (APTT, DRVVT)
- Platelet count
- Homocysteine.

Note that free Protein S levels do drop during pregnancy and a diagnosis of Protein S deficiency can be difficult to confirm. Levels may reach 15-25% in late pregnancy. Testing for Protein S deficiency should be done as early as possible.

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To substantiate a diagnosis to Protein S deficiency the following may be useful:

- 1) Measure total Protein S
- 2) Screen first degree relatives
- 3) Repeat post-partum.

Therapeutic Options Available

- 1) Aspirin or other anti-platelet agents
- 2) Folate and other agents to reduced homocysteine
- 3) Heparins/LMWH
- 4) Oral Vitamin K antagonists
(Warfarin - mini dose or INR directed)
- 5) Specific factor replacement
(e.g. Thrombotrol for AT deficiency)

6) Immunomodulating agents (e.g. Steroids or IVIg) may be applicable for some obstetric complications such as those associated with anti-phospholipid antibodies.

Aspirin and folate may be suitable for low-risk patients, and may have an adjunct role with formal anticoagulation regimens in some patients at high risk.

The utility of lowering homocysteine is currently a topic of debate. Although studies show a tendency of better risk reduction in the vitamin treated group, the degree of reduction has not met statistical significance in many studies.

The type of treatment is dependent on the risk profile and is summarised in table 2 below:

Table 2: Anticoagulation in Pregnancy: Indications, Types and Timing

Indication	Antepartum		Post-partum
	Therapeutic	Prophylactic	
VTE current pregnancy	X		X
VTE prior to pregnancy and no thrombophilia		S	X
High risk thrombophilia with prior Hx VTE*	X		X
High risk thrombophilia without prior VTE		X	X
Low risk thrombophilia and no VTE or adverse obstetrical outcome Δ		S	X, if cesarean birth or first degree relative with history of VTE
Low risk thrombophilia and prior VTE		X	X
Low risk thrombophilia, no prior VTE, but history of adverse pregnancy outcome		S ±X	X, if cesarean birth or first degree relative with history of VTE
Hyperhomocysteinemia and prior VTE or adverse pregnancy outcome		X, if no response to folic acid, vitamin B6, vitamin B12 supplementation	X, if prior VTE. If no prior VTE but treatment initiated antepartum, then treat if cesarean birth or first degree relative with history of VTE

S; simple measures. X; standard treatment indicated. VTE: venous thromboembolism.

* High risk thrombophilias include antithrombin deficiency, homozygotes for the factor V Leiden mutation, and homozygotes for the prothrombin G20210A mutation, a compound heterozygote for factor V Leiden and prothrombin G20210A mutations.

Δ Adverse pregnancy outcomes include severe early onset pre-eclampsia, unexplained recurrent abortion (i.e. no other risk factors), severe (less than 5th percentile) foetal growth restriction, or foetal death after 10 weeks of gestation with placental thrombosis and/or infarction.

A more detailed overview is provided in the following: 'Anticoagulation in Pregnancy and the Puerperium', A Working Group on behalf of the Obstetric Medicine Group of Australasia, MJA 3 Sept 2001, Volume 175; www.mja.com.au/public/issues/175_05_030901/omga/omga.html

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Antepartum Anticoagulation

Full therapeutic regimens:

- Unfractionated heparin
 - Infrequently used now for longer-term anticoagulation
 - Main concerns relate to osteoporosis and frequent monitoring
 - Standard dosing to attain PTT 1.5-2.5.
- LMWH
 - Dalteparin 200 U/kg qd or 100 U/kg q12 hours
 - Enoxaparin 1 mg/kg q12 hours
 - Anti-Xa level 4 hrs after dosing =0.8-1.0 U/ml, and repeat monthly.
- Warfarin
 - Preferably post-partum only
 - Adjust dosage to attain INR 2.0-3.0.

Warfarin is safe to use in breastfeeding. Warfarin has been used in second trimester (preferably after 20 weeks), and should be discontinued after 36 weeks and patient switched to a heparin.

Prophylactic regimens:

- Unfractionated heparin
 - 5000 U sc bid; increase to 7500-10000 U bid in latter half of pregnancy
 - Infrequently used now for longer-term anticoagulation
 - Main concerns relate to osteoporosis and possible HITTS
- LMWH
 - Dalteparin 2500 U bid or 5000-7500 U qd
 - Enoxaparin 30 mg bid (0.5 mg/kg/q12 h) or 40 mg daily
 - For obese patients - may check anti-Xa level and target 0.4-0.6 3-4 hours after morning dose, repeat every trimester.
- Low intensity warfarin (second trimester).

Peri-Partum Management

Vaginal delivery:

- Unfractionated heparin - stop in labour
- LMWH - preferably change to unfractionated heparin at 36-38 weeks
- Warfarin - change to heparin at 36 weeks
- Resume 6-8 hours after delivery, give warfarin with heparin until appropriate anticoagulation
- Treat for a minimum of six weeks.

Elective cesarean delivery:

- Unfractionated heparin - stop after last evening dose
- LMWH - stop at least 24 hours before surgery
- Warfarin - change to heparin at 36 weeks

- Resume anticoagulation 6-8 hours after surgery, give warfarin with heparin until appropriate anticoagulation
- Treat for a minimum of six weeks.

Use of Progesterone only contraceptives post-partum are not contraindicated.

Medicare Rebate

Although thrombophilia screening is recommended for certain conditions, Medicare will only pay a rebate if one of the following is stated on the request form by the patient's doctor:

1. That the patient has a personal history of venous thromboembolism (e.g. Deep Venous Thrombosis (DVT) or Pulmonary Embolism (PE));
2. That a first degree relative of the patient has a proven defect in one or more of the thrombotic test(s) requested and that the particular defect(s) are stated on the request form; or
3. That the request is to confirm an abnormal or indeterminate result.

References:

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The Infectious Diseases Report - Geographic Distribution - July 2008
is available in pdf format on our website www.qml.com.au

clinical data Sep 08

Infectious Diseases Report - Geographic Distribution - July 2008

ORGANISM	Regions (as per key below)															Total			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Jul	Jun	May	Apr
Adenovirus (not typed)		3					6				10	2	2			23	12	17	24
Adenovirus (typing pending)	1	4	5				3		5	13	3	1				35	6	19	10
Barmah Forest virus	4	3	2				5		2	2	5	10			4	37	29	47	83
Bordetella pertussis	8	12	1				7	1	5	1	14	1	2	1		53	35	48	35
Brucella species		2								5	1					8	4	11	5
Campylobacter jejuni																0	0	1	0
Chlamydia pneumoniae																0	0	0	0
Chlamydia trachomatis, not typed	61	89	24	15	3		72		41	21	123	77	17	24	11	578	393	639	529
Coxiella burnetii		1	1	2			1			2		2	1			10	8	12	8
Cryptococcus species							1				1					2	0	3	2
Cytomegalovirus (CMV)	4	5	5				7		9	1	20	10		2	1	64	51	63	48
Entamoeba histolytica																0	0		1
Enterovirus - not typed										1						1	3	2	2
Epstein-Barr virus (EBV)	9	11	7	2			16	1	12	8	28	14	5	4	8	125	78	127	113
Flavivirus unspecified	3			3			2				2	1				11	4	8	11
Hepatitis A virus	1	1	1						1		1		1			6	4	2	3
Hepatitis B virus	6	10	2	1		1	10		6	1	31	2	1	1		72	55	66	87
Hepatitis C virus	21	47	10	5	2		19	1	23	12	52	32	8	6	16	254	162	203	222
Hepatitis D virus															1	1	0	0	0
Hepatitis E virus																0	1	0	0
Herpes simplex Type 1	13	36	19	3	4	2	40		26	13	65	30	6	6	5	268	169	239	234
Herpes simplex Type 2	5	29	7	7			31		13	2	44	27	1	5	1	172	123	149	133
Herpes simplex virus - not typed	3	10	3	6			7	1	4	2	15	12	2	1	6	72	30	62	49
HIV-1							1				1					2	2	9	4
HTLV-1																0	0	0	0
Influenza A virus	2	5	1				10		6	2	10	5	1		1	43	11	17	14
Influenza B virus		4	2				4		2		7	1	1	2		23	11	2	2
Legionella species																0	0	0	0
Leptospira species	4			2					1	1				1		9	8	10	6
Measles																0	1	1	0
Mumps virus								1								1	1	1	1
Mycoplasma pneumoniae	1	5	2	2			4	3	5	2	13	2	1		1	41	30	52	38
Neisseria gonorrhoeae	7	3	1	1	1		10		3		3			2		31	21	28	29
Parainfluenza virus Type 1				1												1	4	7	5
Parainfluenza virus Type 2																0	2	0	1
Parainfluenza virus Type 3			2				3		1		4	1				11	5	1	3
Parvovirus	1	1	1				6		6	1	5	1	1			23	18	21	18
Pneumocystis carinii																0	0	3	2
Respiratory Syncytial virus	1	12	9	1			20		6	6	15	5	11	3	1	90	69	48	45
Ross River virus	4	6	4	1			7		12	4	14	15	2	1	4	74	44	74	149
Rubella virus			1								1					2	1	1	0
Salmonella paratyphi A																0	0	0	0
Salmonella paratyphi B																0	0	0	0
Salmonella typhi																0	0	0	0
Shigella dysenteriae																0	0	0	0
Shigella flexneri																0	0	0	0
Streptococcus Group A	12	14	5		2		10	22	11	9	22	12	2	3	4	128	66	115	85
Toxoplasma gondii																0	0	3	1
Treponema pallidum	22	14	7	2	3		26	5	7	5	30	4	2	4	2	133	89	133	119
Trichomonas vaginalis	11						1		1					1		14	6	8	13
Varicella Zoster virus	16	31	9			1	23		22	5	53	14	5	6	7	192	121	126	170
Yersinia enterocolitica																0	0	0	0
TOTAL	220	358	131	54	15	4	352	35	230	119	593	281	72	73	73	2610	1677	2378	2304

REGIONS

1 Cairns	4 Mackay	8 Northern Territory	12 Sunshine Coast
2 Gold Coast/Northern Rivers	5 Mount Isa	9 Redcliffe	13 Toowoomba
3 Ipswich	6 New England	10 Rockhampton	14 Townsville
	7 North Brisbane Suburbs	11 South Brisbane Suburbs	15 Wide Bay/Burnett

June 2008 and further historical clinical data can be obtained by contacting your local Medical Liaison Officer

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QML Pathology updates Sep 08

>> Warfarin - Rule 3 INR Request

QML Pathology controls over 18,000 warfarin patients throughout Queensland. As part of our ongoing quality improvements involving the Warfarin Control Clinic, we will be using the opportunity of when a Rule 3 request renewal is required, to update our patient information. This will assist us with the ongoing safe warfarin management of these patients.

A letter will be sent to doctors when one of our shared-care warfarin patients is nearing expiration of their Rule 3 INR request.

The letter will be in the following format:

“This patient’s Rule 3 exemption for INR testing has expired. QML Pathology cannot continue to monitor and dose these warfarin control patients without a current valid Rule 3 request. Your patient has been asked to present to you for a review of their anti-coagulation requirements.

Bearing in mind the ongoing benefits and the ongoing risks of anticoagulation in this patient, can you please assess whether:

A) The patient can now cease warfarin (and possibly use some other form of prophylaxis)

OR

B) The patient is to continue warfarin and renew the Rule 3 exemption.

With all renewed requests please - confirm the indication(s) for continuing warfarin

- review and revise if needed the INR target range
- update the expected duration of warfarinisation
- update FBC + E/LFT on record.

If we have been performing home visits on this patient, can you please review the medical indication for this to continue? As you would be aware that this service is only available to immobile patients and unnecessary use of the house call service disadvantages those patients who really need it.”

Please when renewing any Rule 3, if you have a patient that we have been monitoring for over 12 months, we would appreciate some updated information on them i.e. a current medical history summary and a current medication list printout generated from the electronic Patient Record.

Please fax this information to the Haematologist Support Officer on (07) 3121 4316. Should you wish to discuss any issues regarding your patients’ warfarin management please phone our Haematologist Support Officer directly on (07) 3121 4061.





Check out our new website at www.qml.com.au

QML Pathology is proud to announce the launch of our new and improved website at www.qml.com.au.

With a fresh look and feel, our new website has been created with doctors in mind. By incorporating hot buttons and links, a more advanced search function, and one distinct login area for access to the secure section of the website, the new design and layout allows users quick and easy navigation.

Whilst the public side of the site still contains all our relevant patient information, such as collection centre locations, our new feature - the Doctor's Dashboard - is where it really

gets interesting. The new site now has a dedicated doctors section behind a secure login. Once logged in to the Doctor's Dashboard you have access to:



Your Results

Your Results

The Doctor's Dashboard opens up on the 'Your Results' page for easy access to patient results via our online results system.



Test Reference Manual

Test Reference Manual

The most up to date version of our Test Reference Manual. Download the pdf to your desktop for a quick and easy interactive digital reference tool.



QML Pathology Publications

Publications

Download pdf versions of our publications. These contain useful reference material, testing information and clinical updates that keep the medical community abreast of developments in the pathology industry.



Added Test Service

Added Test Service

Submit requests for additional testing by filling out an online form with the request details.



Warfarin Services

Warfarin Services

Register or cease your patients in the QML Pathology Warfarin Control Program with our easy and convenient online registration forms.



Travel Health & Vaccine Service

Travel Health & Vaccine Service

We provide a free travel health advice service for doctors with patients travelling overseas, including a list of vaccinations required to travel safely. Order a wide range of vaccines via our online form.



Ordering Products

Ordering Products

QML Pathology supplies medical practitioners with quality collection materials in order to assist you and your patients with pathology collections.



Professional Development

Professional Development

QML Pathology is committed to supporting the ongoing professional development of Medical Practitioners. Go here to utilise our extensive library service or check out our CPD program.

If you have previously registered to access the secure section of the QML Pathology website, your existing username and password will remain valid. New users can register for access by selecting 'register' next to the 'Medical and Professional Login' box.

For further information please contact the Marketing Department on (07) 3121 4456 or info@qml.com.au.

QML Pathology updates Sep 08

>> Test Reference Manual

The much anticipated QML Pathology 2008 Test Reference Manual is now available in hard copy and electronic versions (via the website) for all Medical Practitioners and surgery staff.

Since its inception in the 1990s, the Test Reference Manual has evolved to include more than 1700 tests, in-depth departmental collection requirements, appendices with useful reference sheets, tables and articles, and an overview of QML Pathology and the services that we provide to Medical Practitioners and their patients.

Test Listing

In the manual Medical Practitioners will find comprehensive information on every test that QML Pathology can perform including the test name, test department, specimen container required, reporting time, and additional comments such as clinical information, special preparation requirements or billing information. The Test Listing section also contains a test selection guide for some of the more common tests and information on Rule 3 Exemption.

Collection Materials

Go to the Collection Materials section for detailed information and images of our blood collection tubes, specimen containers, cytology kits, swabs and skin devices. This section also contains useful reference material on specimen storage and the order of draw for blood collection tubes.

Collection Facilities

Refer to the Collection Facilities section for a list of our collection centres, special tests we offer and collection centres where special tests can be performed. For a more comprehensive listing refer to www.qml.com.au/patient_information_collection_centres.asp.



A comprehensive A-Z listing of every test.

Additional Services

Learn more about our travel health advice service, our vaccines available for purchase and our warfarin control program in the Additional Services section of the manual.

Preface

Utilise the Preface section of the Test Reference Manual for specific departmental directions on specimen collection, storage and transport.

Appendices

Access tables, guidelines, procedures, reference sheets and additional information in the Appendices section of the manual.

Online

The electronic version of the Test Reference Manual will be updated on a regular basis. Please refer to our 'Latest News' section of the Doctor's Dashboard for any changes to the manual.

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How to get your copy

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>> Doctor's Noticeboard

Doctor For Occupational Medical Practice **No provider number required**

We are an award winning Specialist Occupational Medical Service with ISO 9001 Certification and have been operating for 25 years.

We operate 20 clinics nationally with 6 clinics in QLD. Our services include acute injury treatment services, pre employment medicals, occupational health surveillance, occupational vaccinations, specialist consulting and many more.

We are interested to hear from doctors who have an interest in or experience in industrial health or in achieving specialist qualifications in the field. We also offer flexible working arrangements to help you balance work and family.

Apart from a great lifestyle - no weekends, no after hours, Monday to Friday, we can offer highly competitive percentage based remuneration, training and professional development. All doctors have access to a supervising clinician.

We need doctors who are committed to quality practice and who are willing to work as a team. If you feel that you can contribute to our team, please submit your resume to The General Manager at charlotte.grobler@hfi.com.au.



Sessional Rooms for Lease

One generous sized room with examination couch, x-ray light box, desk and wash basin plus reception/ waiting area with desk and chairs included. Air-conditioned throughout. Cardiology services, GP and pathology nearby. X-ray services coming soon. Ample parking on site.

Sessions available all day Monday, Tuesday, Thursday, Friday and Saturday mornings. No receptionist services offered. Located at Meadowbrook, near Logan Public Hospital.

Please contact Felicity on (07) 3200 7377 or na99154@bigpond.net.au.

Eatons Hill Medical Centre – FT/PT GP Position

Friendly practice, flexible hours, accredited CSQTC training. Mixed billing, MD3, Nurse support.

Contact Suzie on (07) 3325 5559 or info@eatonshillmedical.com.au.

Dr Eddie Cheng, Plastic and Reconstructive

Surgeon has commenced part time practice with Dr Lee Brown at Coastal Plastic Surgery. Contact details are:

Kawana Private Hospital
Suite 19, 5 Innovation Parkway
Kawana Waters QLD 4575
Ph: (07) 5437 9333
Fx: (07) 5437 9330.

Dr Cheng also has private practices at the Wesley and Royal Brisbane Hospitals.

Dr Scott Sommerville, Orthopaedic Surgeon

with subspecialty interests in hip and knee replacement surgery, and musculoskeletal tumour surgery, has relocated his practice rooms to:

Wesley Medical Centre
Suite 40, Level 3
40 Chasely Street
Auchenflower QLD 4066
Ph: (07) 3720 8333
Fx: (07) 3870 5385

His practice arrangements at The Greenslopes Private Hospital and Sunnybank Specialist Centre remain unchanged.

New Collection Centres

Idalia

Tenancy 1
33 Kokoda Street
Idalia
QLD 4811

Ph: (07) 4729 0569

Opening Hours:
8.00am - 12.00pm (Mon-Fri)

Murwillambah

Shop 4
14 King Street
Murwillambah
NSW 2484

Ph: (02) 6672 7139

Opening Hours:
8.00am - 1.00pm,
2.00pm - 4.30pm (Mon-Fri)

Ormeau

Shop 3
Ormeau Shopping Cntr
3 Vaughan Drive
Ormeau QLD 4208

Ph: (07) 5549 2011

Opening Hours:
8.00am - 12.30pm,
1.00pm - 4.00pm (Mon-Fri)

Withcott

Shop 10-11
Colonial Shopping Cntr
Warrego Highway
Withcott QLD 4352

Ph: (07) 4637 4715

Opening Hours:
8.30am - 4.30pm (Mon)
8.30am - 1.30pm (Tue-Fri)