

QML PATHOLOGY

newsletter October 07

>>ThinPrep Imaging System Update

Jenny Halford, Manager, Cytology

>>Serum Free Light Chain Assay - Now Available and Attracts Medicare Rebate

Dr Julia Chang, Registrar, Biochemistry Department



QML Pathology.

>> ThinPrep Imaging System Update

Jenny Halford, Manager, Cytology

In contrast to other parts of the world where liquid based cytology is replacing the conventional Pap smear, this technology continues to be used in Australian laboratories as an adjunct to conventional cytology. Manual screening of ThinPrep slides has been widely practiced for over 10 years and the recent introduction of the ThinPrep Imaging System (TPI) has been reported as being more sensitive than the conventional smear (CS) in the identification of high-grade cervical disease^{1,2}.

The installation of the TPI into our routine gynaecological practice in May 2006 required a stain validation process and training of screening staff in the use of the imaging microscopes. This was undertaken according to Cytoc Corporation protocol.

After more than 12 months of this technology in practice at our Brisbane Central Laboratory, results are available comparing the sensitivity of TPI with CS for the detection of cervical abnormalities. These results were presented at the Australian Society of Cytology Business and Scientific Meeting in Adelaide in October 2007.

Table 1 shows a summary of detection rates for all abnormalities for the ThinPrep imaged slide and the conventional slide from May 2006 – June 2007.

TPI demonstrated a 77.8% decrease in unsatisfactory reports (3.46% for CS v 0.77% for TPI) and a 5.5% increase in possible high-grade and high-grade reports (1.65% for CS v 1.74% for TPI) when compared to CS.

Table 1: The Detection Rate for ALL Abnormalities for CS and TPI

	CS	%	TP	%	FINAL	%
Unsatisfactory	1502	3.46	333	0.77	240	0.55
Negative	38623	88.89	39115	90.02	38869	89.46
Poss Low-grade Squamous	1493	3.44	1935	4.45	2179	5.01
Low-grade Squamous	993	2.29	1196	2.75	1223	2.81
Poss High-grade Squamous	308	0.71	323	0.74	358	0.82
High-grade Squamous	407	0.94	433	1.00	440	1.01
SCC	6	0.01	6	0.01	6	0.01
AEUS/AGUS	73	0.17	73	0.17	88	0.20
Poss High-grade Glandular	31	0.07	22	0.05	33	0.08
AIS	11	0.03	11	0.03	11	0.03
Adenocarcinoma	3	0.00	3	0.00	3	0.00
		7.65		9.21		
TOTAL					43450	

In 83 cases a possible high-grade/high-grade squamous abnormality was identified on TPI and not on CS, and in 42 cases on CS and not on TPI.

In 916 cases a possible low-grade/low-grade abnormality was identified on TPI and not on CS, and in 271 cases on CS and not on TPI.

Histological follow-up has been obtained for the first 10 months of cases. Of these, 292 cases were confirmed as high-grade squamous disease.

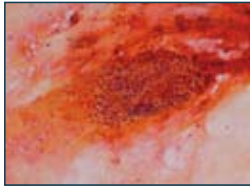
Table 2 (on page 3) shows the final cytology diagnosis for both TPI slides and CS slides.

For 292 biopsy confirmed high-grade lesions the correct diagnosis of high-grade or possible high-grade disease was made on the ThinPrep slide in 69.5% (203/292) of cases and on the conventional smear in 65.8% (192/292) (P=0.479). When all abnormalities identified on cytology were considered, including possible low-grade and low-grade abnormalities, the sensitivity for ThinPrep slides was 96.9% (283/292) and for conventional smears was 89.4% (261/292) (P=.001997).

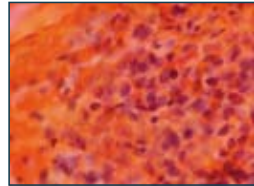
Cases 1-4 demonstrate cervical abnormalities reported during this study and the improvement in preparation and appearance in ThinPrep samples.



>> Case 1

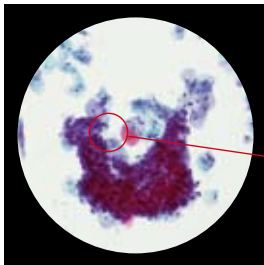


Conventional x 100

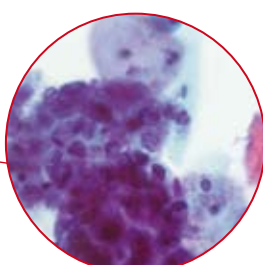


Conventional x 400

Degenerate sheet of darkly stained cells heavily obscured by blood. High-powered view shows some crowding and atypical features. Reported as unsatisfactory for assessment.



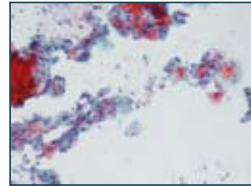
ThinPrep x 100



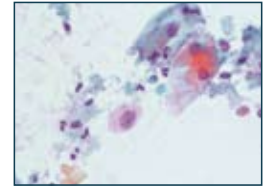
ThinPrep x 400

Large syncytial sheet of abnormal cells in a clean background. Three dimensional sheet with hyperchromatic cells shows variation in size and shape. Reported as CIN 3, Histology CIN 3.

>> Case 2

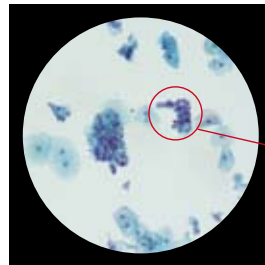


Conventional x 100



Conventional x 400

Scanty mildly atypical squamous cells show slight nuclear membrane irregularity. Reported atypical squamous cells.



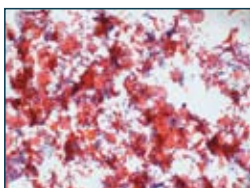
ThinPrep x 100



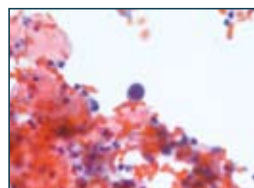
ThinPrep x 400

Cluster of highly atypical metaplastic squamous cells in a clean background. Abnormal cells show high nuclear to cytoplasmic ratio, margination of chromatin and nuclear grooving. Reported CIN 3, Histology CIN 3.

>> Case 3



Conventional x 100

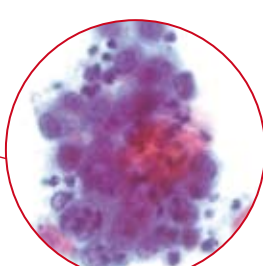


Conventional x 400

Single small metaplastic cell in a background heavily obscured by blood. High-powered view shows high nuclear to cytoplasmic ratio suggestive of a high-grade abnormality. Reported as unsatisfactory for assessment.



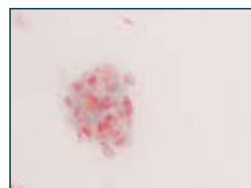
ThinPrep x 100



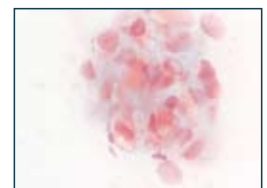
ThinPrep x 400

Small cluster of abnormal metaplastic cells in a clean background. Abnormal cells show high nuclear to cytoplasmic ratio and hyperchromasia. Reported CIN 2, Histology CIN 3.

>> Case 4



Conventional x 200



Conventional x 400

Degenerate epithelial cells, some atypia is observed. Reported benign.



ThinPrep x 100



ThinPrep x 400

Cluster of darkly stained squamous metaplastic cells in a clean background. High-powered view shows abnormal cells with high nuclear to cytoplasmic ratio and hyperchromasia. Reported as possible high-grade abnormality, Histology CIN 3.

>> ThinPrep Imaging System Update

Jenny Halford, Manager, Cytology

Table 2: The final cytology diagnosis for both TPI slides and CS slides.

	CS	TPI	FINAL
Negative	28	9	0
Unsatisfactory	3	0	0
Poss LGSIL/LGSIL	67	78	81
Poss HGSIL/HGSIL	187	199	204
SCC	3	3	3
AEUS/AGUS	2	2	2
Poss HGGL/HGGL	2	1	2
TOTAL			292

Previous studies have shown that manually read ThinPrep slides also demonstrate improved sensitivity over CS, as well as decreased unsatisfactory slides³. This improvement is likely to be related to the method of slide preparation using the methanol based collection fluid and the ThinPrep Processor. Direct comparison between TPI and TPM has shown at least equivalent sensitivity and specificity, and a significant improvement in productivity for TPI over TPM⁴.

Cytec Corporation, distributor of the ThinPrep Imaging System, has recently submitted an application to the Medical Service Advisory Board (MSAC) for allocation of a Medicare rebate for ThinPrep specimens, which have been assessed using the ThinPrep Imaging System. Australian laboratories dealing with the continued reduction in the Cytologist workforce and Practitioners preferring the simpler method of sample collection will be comforted in the knowledge that there is at least equivalent sensitivity for the detection of cervical abnormalities.

References:

1. Roberts JM et al. Diagn Cytopathol 2007; 35:96-102.
2. Davey E et al. BMJ 2007; 335 (7609):1-2.
3. Roberts JM et al. Med J Aust 1997; 167:466-469.
4. Davey E et al. Diagn Cytopathol 2007; 35:550-554.



(L-R) Dr Inta McConachie, Dr Margaret Cummings, Dr James Duhig and Dr Gillian Ritchie.

The services our Cytopathologists offer do not end with the results they provide, but extend to continuing education within both the cytology and medical communities. Many of our Pathologists are active contributors to medical journals, newsletters and conferences worldwide and are leaders in their field of expertise.

Dr James Duhig, Department Head and Cytopathologist in Charge, has recently been involved in investigating the efficacy of a new immunochemical marker for HPV progression in ThinPrep samples. The Human Papillomavirus L1-Capsidprotein has been reported to be a reliable indicator of progression of precursor cervical lesions to invasive cancer. These preliminary results were presented at the Australian Society for Colposcopy and Cervical Pathology meeting held on the Gold Coast in September 2007.

Dr Margaret Cummings is the Chairperson of the RCPA Quality Assurance Program in Cytopathology. The QAP is responsible for external quality assurance for Cytology laboratories in Australasia, South East Asia and other countries.

Recently four members from our Cytology team attended the Australian Society of Cytology Business and Scientific Meeting in Adelaide. Among several posters that were presented by QML Pathology staff during the meeting, the prize for Best Scientific Poster was won by Jenny Halford for her work in reporting QML Pathology's ThinPrep Imager results, as outlined in the adjacent article. As well as this outstanding result, another of our Cytologists, Ms Liisa Kallio-Lewis, accepted her national Certification Certificate in Cytology, the national examination in Cytopathology, where she attained a distinction and the second highest score in the country.

Our dedicated Cytopathologists and Cytologists are available to assist with any concerns you have over your patients' tests and subsequent results. Please do not hesitate to call on (07) 3121 4494 if you have any queries.



Jenny Halford
BAppSc CT(ASC)
CT(IAC)

Manager, Cytology Department
Ph: (07) 3121 4009
Email: jenny.halford@qml.com.au

>> Serum Free Light Chain Assay - Now Available and Attracts Medicare Rebate

Dr Julia Chang, Registrar, Biochemistry Department

Diagnosis and Monitoring of Monoclonal Gammopathies

The term 'monoclonal gammopathy' refers to a group of disorders in which abnormal amounts of immunoglobulins are produced by a clone of a single pro-B germ cell. They are characterised by the production of homogeneous (monoclonal) proteins and can be grouped separately into plasmacytic disorders e.g. multiple myeloma and related disorders, lymphocytic disorders e.g. Waldenstrom's macroglobulinaemia, and protein infiltrative and deposition diseases e.g. AL amyloidosis.

Diagnosis and Classification

The diagnosis and classification of multiple myeloma and related disorders can be challenging in some patients. As a result, there is a wide variety of diagnostic criteria utilised by various groups of experts. In most of these guidelines, the presence of myeloma-related tissues impairment (Table 1) is regarded as the most critical factor. The diagnostic criteria for multiple myeloma and related disorders proposed by The International Myeloma Working Group are summarised below:

Diagnostic Criteria for Monoclonal Gammopathy of Uncertain Significance (MGUS)

- Monoclonal protein (M-protein) <30 g/L
- Bone marrow clonal cells <10%
- No evidence of multiple myeloma, other B-cell proliferative disorders or amyloidosis.

Diagnostic Criteria for Asymptomatic Myeloma

- M-protein \geq 30 g/L and/or bone marrow clonal cells \geq 10%
- No related organ or tissue impairment

Diagnostic Criteria for Symptomatic Myeloma

- M-protein in serum and/or urine
- Bone marrow clonal cells (usually >10%, but can range from <5% to almost 100%)
- Related organ or tissue impairment

Diagnostic Criteria for Non-secretory myeloma

- No M-protein in serum or urine with immunofixation
- Bone marrow clonal plasmacytosis \geq 10% or plasmacytoma
- Related organ or tissue impairment

Table 1. Myeloma-related organ or tissue impairment due to the plasma cell proliferative process

• Hypercalcaemia
• Renal impairment
• Anaemia
• Radiological bone lesions
• Others: symptomatic hyperviscosity, amyloidosis, recurrent bacterial infections (>2 episodes in 12 months)

Laboratory Evaluation of Monoclonal Gammopathies

Laboratory investigations form an important aspect in the diagnosis of monoclonal gammopathies. Useful laboratory tests are:

- Complete blood count and differential peripheral blood smear
- General serum chemistry including calcium and creatinine
- Serum protein electrophoresis and immunofixation
- Quantification of serum immunoglobulins
- Routine urinalysis and 24 hr urine collection for electrophoresis and immunofixation
- Serum free monoclonal light chains may replace the latter in time
- B2 microglobulin, C-reactive protein, measurement of cryoglobulins
- Bone marrow aspirate and trephine biopsy (cytogenetics, immunophenotyping and plasma cell labelling index if available)

Radiological skeletal bone survey including spine, pelvis, skull, humeri and femora should not be overlooked and MRI may be helpful.

Serum and urine protein electrophoresis followed by immunofixation is the first-line investigation in patients suspected of having a monoclonal gammopathy. This allows detection and classification of monoclonal protein type, assessment of tumour burden and assessment of the decreases in normal immunoglobulin.

In recent years, a highly sensitive and quantitative serum free light chain (FLC) assay has been developed. It has a greater than 100-fold increase in sensitivity compared with present electrophoresis methods and is able to quantify as little as 2 mg/L FLC in serum and 1 mg/L FLC in urine. Several studies have been published to support the use of serum FLC assay in clinical laboratories, especially in the diagnosis and monitoring of light chain diseases e.g. light chain multiple myeloma, AL amyloidosis and non-secretory myeloma. Serum FLC level has also been proven to be a useful prognostic marker for AL amyloidosis.

Serum FLC should not be used in isolation for the diagnosis of monoclonal gammopathies as they cannot differentiate some groups of patients with monoclonal gammopathies from healthy individuals. Normal FLC concentrations and ratios are seen in some patients with intact immunoglobulin multiple myeloma and MGUS. Serum and urine protein electrophoresis should remain the first-line investigation in patients suspected of monoclonal gammopathies but in time, serum FLC analysis has the potential to replace the urinary testing for Bence Jones protein.

Serum free light chain will attract a Medicare rebate (Item number 71200) from November 2007.

clinical data Oct 07

Infectious Diseases Report - Geographic Distribution - September 2007

SEROLOGY	Regions (as per key below)															Total			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Sep	Aug	Jul	Jun
Adenovirus (not typed)	1	2	1				8		1		4	1	4	1		23	54	20	10
Adenovirus (typing pending)		1					2		1	1						5	14	8	5
Barmah Forest virus		1		1			3	1	3	1	1	5		2	1	19	34	42	45
Bordetella pertussis	1	3	1				3		3	1	6	2				20	67	58	39
Brucella species																0	0	3	1
Campylobacter jejuni																0	0	0	0
Chlamydia pneumoniae																0	0	0	0
Chlamydia trachomatis, not typed	42	36	19	4	1		41		16	14	60	30	3	10	12	288	497	462	442
Coxiella burnetii	2	1	1							1	1	1	2		1	10	14	16	12
Cryptococcus species			1				1								1	3	2	2	0
Cytomegalovirus (CMV)	2	2	1	1			1		10		5	1	1			24	55	38	48
Entamoeba histolytica																0	1	0	0
Enterovirus - not typed	1	1														2	2	2	4
Epstein-Barr virus (EBV)	4	18	4				20		3	3	28	10	2	3	1	96	134	104	117
Flavivirus unspecified	2						1				1	2		1		7	23	10	11
Hepatitis A virus									1							1	0	5	3
Hepatitis B virus	5	5	2				8		3		21	1		2		47	75	80	69
Hepatitis C virus	10	33	6	2	1	1	13		10	7	28	15	2	6	1	135	252	204	214
Hepatitis D virus																0	0	0	0
Hepatitis E virus																0	0	0	0
Herpes simplex Type 1	9	15	8	3	1		18		13	5	25	15	6	1	1	120	221	272	255
Herpes simplex Type 2	8	20	4		1		15		11	5	21	17	2		1	105	180	177	161
Herpes simplex virus - not typed		3					4		2	1	3	1				14	47	67	51
HIV-1	1															1	1	4	5
HTLV-1																0	0	0	0
Influenza A virus	2	16	4		1		16	2	8	1	16	8	4	7	1	86	939	293	22
Influenza B virus						1	2					1				4	7	1	0
Legionella species																0	0	0	1
Leptospira species	2															2	3	2	4
Measles virus		1														1	1	2	2
Mumps virus																0	1	1	2
Mycoplasma pneumoniae	2	1					9		5	5	15	4			2	43	95	80	71
Neisseria gonorrhoeae	1						4									5	16	28	39
Parainfluenza virus Type 1																0	1	1	2
Parainfluenza virus Type 2																0	1	1	2
Parainfluenza virus Type 3	1	3	1				4		4	3	7		1	1		25	36	6	5
Parvovirus		5	2				6		2	3	6					24	47	28	25
Pneumocystis carinii																0	1	0	2
Respiratory Syncytial virus		5	4				4		10	7	16	4		3	2	55	130	83	76
Ross River virus	3	4	1	1			3		2	3		4		2		23	41	46	43
Rubella virus																0	0	1	2
Salmonella paratyphi A																0	0	0	0
Salmonella paratyphi B																0	0	0	0
Salmonella typhi																0	1	0	0
Shigella dysenteriae																0	0	0	0
Shigella flexneri																0	0	0	0
Streptococcus Group A	8	10	2				17	6	5	2	5	4	3	3		65	127	94	90
Toxoplasma gondii									1							1	0	1	0
Treponema pallidum	8	2	4		3		19	2	6	4	18	4	1	3	1	75	139	109	118
Trichomonas vaginalis	3													1		4	11	3	12
Varicella Zoster virus	8	19	6	1		1	21		8	5	28	9	4	5	1	116	175	181	141
Yersinia enterocolitica									1							1	1	0	0
TOTAL	126	207	72	13	8	3	243	11	129	72	315	139	35	51	26	1450	3446	2535	2151

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 Suburb	11 South Brisbane Suburbs	15 Wide Bay/Burnett

August 2007 and further historical clinical data can be obtained by contacting your local Medical Liaison Officer

This newsletter has been prepared and published by QML Pathology for the information of referring doctors. Although every effort has been made to ensure that the newsletter is free from error or omission, readers are advised that the newsletter is not a substitute for detailed professional advice.

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QML Pathology updates Oct 07

>> The Spirit of Giving

As the holiday season is upon us, we can reflect on the past year and on those who have supported us throughout this time. Historically QML Pathology has expressed our thanks with a small token of appreciation for members of the medical community. However, for the past few years we have been fortunate to have the opportunity to convey our thanks through a donation to assist those in the community who are less privileged than ourselves.

To give to people in need at this time is very gratifying and something each of you is a part of. It is through your continuing patronage and support that we have the opportunity to make a crucial difference in the lives of others. In 2007 Childhood Cancer Support and Corporate Angel Network of Australia will have the chance to convert \$50,000 into life-changing experiences.

Childhood Cancer Support Inc

In response to the increasing incidence rate of childhood cancer in Queensland, there is a growing need for services which provide support to these children and the family unit as a whole. Childhood Cancer Support (CCS) is a Queensland-based charity totally dedicated to the support and assistance of children with cancer, as well as their families.

The major aims of CCS are financial and emotional support, and the provision of accommodation for families affected by cancer. CCS owns and operates nine self-contained family units located close to the Royal Children's Hospital. Families stay free of charge in a 'home away from home' environment. In addition CCS provides recreational therapy activities, and continually advocates for childhood cancer research and improvements in treatment facilities.

For further information or to make a donation please call (07) 3252 4719 or visit www.ccs.org.au.

Corporate Angel Network of Australia

Long hours of travel by road or rail can be draining on a patient's strength, and in many cases makes visiting patients very difficult for families living long distances from treatment hospitals. Recognising that illness is traumatic enough, Corporate Angel Network of Australia aims to reduce the financial and emotional stress placed on these families.

Corporate Angel Network of Australia is a network of corporations and individuals in hospitals, cancer and leukaemia support groups, aviation companies and businesses who work together in order to provide free air transport to and from treatment centres for qualifying persons, namely cancer and leukaemia patients and bone

marrow donors and their carers within Australia. Their service supports families from all areas of Queensland, from the Gold Coast all the way up to Mt Isa.

For further information or to make a donation please visit www.angelnet.asn.au.

It is rewarding to have the opportunity to support those charities which give such wonderful financial and emotional support to your patients during some of the most difficult moments in their lives. Thank you to every member of the medical community, your support has enabled QML Pathology to help these charities make a difference in the lives others.

>> Thrombophilia and Factor V Leiden Mutation

QML Pathology has recently introduced a new 'Patient Eligibility for Medicare Rebate: Thrombophilia and Factor V Leiden Mutation' form. This form is designed to make it easier for doctors and patients for determining eligibility for Medicare rebate. To obtain a copy of this form please contact our Liaison Department on (07) 3121 4943 or your local branch Medical Liaison Officer.

Patient Eligibility for Medicare Rebate: Thrombophilia & Factor V Leiden Mutation QML Pathology

Attention Patient:
1) Please ask your Doctor to complete this form.
2) Please return the completed form to the QML Pathology Clinic you attended.

Attach Lab no. here office use only

Thrombophilia Testing
In order to obtain a Medicare rebate for Thrombophilia Tests, the answer to at least one of the following questions must be YES. If the answers to ALL questions are NO, then the patient will not be eligible for a Medicare rebate.

1. Does the patient have or is there a personal history of Venous Thromboembolism (e.g. Deep Venous Thrombosis (DVT) or Pulmonary Embolism (PE))? ☐ YES ☐ NO

2a. Is the patient a first degree relative of a person with a proven diagnosed history of ATIII or Protein C or Protein S, or Activated Protein C resistance (Factor V Leiden)? ☐ YES ☐ NO

2b. If yes which defect? _____

3a. Is testing to confirm or clarify an abnormal or indeterminate result for ATIII, Protein C or Protein S, or Activated Protein C resistance (Factor V Leiden)? ☐ YES ☐ NO

3b. If yes which defect? _____

Name _____ Doctor Signature _____ Date _____

Factor V Leiden Mutation Testing
In order to obtain a Medicare rebate for Factor V Leiden Mutation Genetics Tests, the answer to at least one of the following questions must be YES. If the answers to BOTH questions are NO, then the patient will not be eligible for a Medicare rebate.

1. Does the patient have or is there a personal history of Venous Thromboembolism (e.g. DVT or PE)? ☐ YES ☐ NO

2. Is the patient a first degree relative of a person with a proven diagnosed history of the Factor V Leiden or Prothrombin G20210A Mutation? ☐ YES ☐ NO

Please Note: Family history does not include 'Venous Thromboembolism in a family member' - it must be a defined defect in one of the above coagulation factors. Testing of the family index case in the first instance may be required to clarify which defect is present.

Name _____ Doctor Signature _____ Date _____

Patient to Complete and Sign

I, _____ (full name) understand that if I am not eligible for a Medicare rebate, then QML Pathology will issue an account to me of up to and including \$140 (as per May 2007 scheduling) depending on testing requirements as referred by my Medical Practitioner. I accept that I will pay such monies owed to QML Pathology.

Patient Signature _____ Date of Birth _____ Date _____

Attach Lab no. here office use only



QML Pathology updates Oct 07

Doctor's Noticeboard

- Ascot Family Practice has relocated to 153A Racecourse Road, Ascot. The new surgery is a modern premises with updated facilities and a large treatment room. The new surgery also has parking and wheelchair access for patients.
- QML Pathology - Mooloolaba
New Consulting Room available within new QML Pathology collection centre. Contact: Samantha Rowe or Bev Gonano (07) 5441 0200 for further details.
- A Rapid Access Dermatology Service has commenced on Wickham Terrace, Brisbane. A broad group of rostered dermatologists are contributing to the service on the Friday of each week. The new service commenced as part of a trial for the Federal Government Department of Health and Ageing. The process aims to retain management with the referring practitioner as much as possible. Detailed treatment plans are forwarded to the family doctor as necessary to help with continued care.

Any doctor wishing to use the service for their patients can apply for referral pads by ringing (07) 3839 6147.

- VERY large consulting room available for sessional use. Located inside QML Pathology's Robina Collection Centre the room is available any Monday, Wednesday or Thursday. The room is currently used by an ENT and Audiologist. Please contact Dylan on 0411 353 731 for further information.
- Dr Dermot (Steve) Clark Ryan wishes to advise his colleagues of the past 60 years, of his impending retirement from his practice as a Consulting Paediatrician. Thanks for your cooperation.

International Patients

Being a visitor in an international country can be an overwhelming and sometimes confusing experience, especially if you get sick. For you and your patient's convenience it is preferable to send all international visitors, where possible, to a QML Pathology collection centre for tests. All international visitors will be dealt with in a prompt, efficient manner, and all required patient details will be handled by QML Pathology. For any queries concerning international visitors and fees please contact our Accounts Department on 1800 350 046.

New Collection Centres

Brisbane City

Level 1, Navision House
10 Market Street
Brisbane QLD 4000
Phone: (07) 3229 1489
Opening Hours:
7.30am - 12.30pm and 1.00pm - 3.30pm
(Monday-Friday)

Cannonvale

Unit 5, 121 Shute Harbour Road
Cannonvale QLD 4802
Phone: (07) 4948 0384
Opening Hours:
8.00am - 12.00pm and 1.00pm - 4.30pm
(Monday-Friday)
8.00am - 11.00am (Saturday)

Mooloolaba

Shop 1, Pandanus
15-21 Smith Street
Mooloolaba QLD 4557
Phone: (07) 5477 5238
Opening Hours:
8.00am - 12.00pm and 12.30pm - 4.00pm
(Monday-Friday)

Rainbow Beach

10 Ilmenite Avenue
Rainbow Beach QLD 4581
Phone: (07) 5482 1511
Opening Hours:
8.00am - 10.30am (Tuesday to Thursday)

Rockhampton - Mater Hospital

Kenmore House
Mater Misericordiae Hospital
Ward Street
Rockhampton QLD
Phone: 0423 296 412
Opening Hours:
9.00am - 12.30pm and 1.00pm - 5.00pm
(Monday-Friday)

Relocated Centres

North Rockhampton

Shop 9, 235 Musgrave Street
Phone: (07) 4923 7379
Opening Hours:
8.00am - 4.30pm (Monday-Friday)