A Pragmatic Approach to Atypical Pigmented Lesions that Pose Problems for Clinicians and Pathologists
Dr Patricia Renaut, QML Pathology

The incidence of melanoma in Queensland is the highest in the world. With this disheartening statistic, there has been increasing awareness as well as motivation for self-examination, resulting in clinicians and pathologists encountering atypical pigmented lesions on a daily basis. This article will deal with a selection of atypical pigmented lesions that can pose problems for both clinicians and pathologists.

**DYSPLASTIC NAEVI**

The dysplastic naevus continues to be a subject of controversy and cause of dissent amongst pathologists and skin cancer doctors, alike. This arises from the term ‘dysplastic’ and also the three-tier histological grading system of atypia (mild, moderate and severe), both of which suggest that there is a linear relationship and stepwise progression from dysplastic naevus to melanoma. The resulting overtreatment of many dysplastic naevi has led to several attempts to abandon the name and grading system.

From observations of clinically atypical naevi in patients with a familial predisposition to melanoma, the suggestion that dysplastic naevi are a marker for an increased melanoma risk was made. These early observations were, however, based on the presence of clinically atypical naevi rather than histologically diagnosed dysplastic naevi (DN) and it is now known that there is only poor to fair correlation between the two. Although it is widely stated that DN are a marker for increased melanoma risk, this is only true for patients with high numbers of naevi. It also holds true for patients with high numbers of common naevi.

**Note:** This discussion does not apply to ‘lentiginous dysplastic naevus of the elderly’ or similarly named lesions that appear to be bona fide premalignant lesions lying somewhere along the spectrum of atypical lentiginous melanocytic proliferation and lentiginous melanoma. This is discussed in a separate section.
To date, there is no evidence that DN are any more likely than common naevi to be precursors of melanomas. Both are found in association with melanomas in roughly equal proportions. There are also no consistently reproducible genetic alterations that link DN to melanomas. Thus, the three-tier histological grading system of atypia becomes questionable. This is even more so when considering the subjective nature of grading: one pathologist’s dysplastic naevus with severe atypia may be another’s melanoma in situ, and lesions with mild atypia may be a common naevus to another pathologist. This interobserver variability should be taken into consideration when interpreting the results of any study that purports to correlate the severity of atypia with increased melanoma risk.

Grading is also problematic as based on the current grading system all DN will show at least mild atypia. This is only so when they are compared to common naevi. Some of the histological features that are used to diagnose and grade DN are also seen and recognised to be normal features in so called ‘special site’ naevi, scalp naevi in children, Spitz naevi and pigmented spindle cell naevi, all of which are unequivocally benign naevi that look atypical only when compared to the common naevus. When considered in this light, there is logic to the suggestion that the term ‘dysplastic nevus’ be replaced with ‘Clark nevus’ as it is a specific histological entity which is not truly dysplastic but deserves continued distinction from common naevi. Nevertheless, until there is universal agreement to change the name, the term ‘dysplastic naevus’ must still appear in the pathology report, even if only within parentheses, to avoid further confusion.

There is also considerable support for replacing the current grading system with a two-tier system (e.g. ‘dysplastic naevus with low/high grade atypia’ or ‘Clark (dysplastic) nevus without/with atypia’). Whilst this does not eliminate subjectivity, it should be reduced considerably. It should be noted that the true utility of grading in this context is not to confer a risk of developing melanoma but, rather, to convey that there is diagnostic uncertainty. Lesions that are high grade or have atypia lie in the ‘gray zone’ between naevus and melanoma in situ. Whilst diagnostic uncertainty is inevitable in some cases, lesions that are favoured to be melanoma in situ should be stated as such, rather than using vague terms such as ‘bordering on’ or ‘approaching’. This is to avoid confusion and to convey the necessity for appropriate margins. In pathology, diagnostic uncertainty is largely due to the subjectivity of histological assessment criteria and it is seen in many types of tumours. Advances in molecular analysis have allowed some of these ‘gray zone’ tumours to be reclassified and it is almost certain that further advances will result in the diminution of diagnostic uncertainty. Examples of this are the HRAS-mutated Spitz naevus and BAPomas, two genetically distinct tumours that were previously included in the ‘atypical Spitz tumour’ category. Both are now considered to be benign.

For reasons already mentioned above, not all clinically atypical naevi need to be removed. Patients should be assessed according to the prevailing pattern (‘signature’) of their naevi and only the ‘ugly ducklings’ that are suspicious for melanoma require removal. As for any lesion that is suspicious for melanoma, excisional biopsy is the gold standard. In patients with multiple naevi, this can be effectively performed by saucerisation to include a narrow (0.5-1mm) rim of normal skin beyond the pale brown halo. This minimises skin loss when compared to elliptical excisions. Note that well-performed saucerisation should include reticular dermis. The sample can also be placed onto a piece of card prior to immersion in formalin, to prevent excessive curling for optimal margin assessment. If there is residual pigment in the resulting wound, this must also be completely removed and sent for histology.

Naevi that are low grade or without atypia are benign and do not need to be re-excised, provided that there is no residual clinical lesion. This is to ensure that the lesion has not been undersampled by partial biopsy. High grade/ atypical lesions should be completely excised with a margin of normal skin. Repeat saucerisation and excision with suture closure are both acceptable methods for re-excising these lesions.

**Key points**

- There is no evidence that patients with one or a few of these naevi have a higher risk of developing melanoma.
  - There is no evidence that dysplastic naevi are any more likely than common naevi to be direct precursors of melanoma.
  - The correlation between clinically atypical naevi and histologically diagnosed dysplastic naevi is poor to fair.
  - Only naevi that are clinically suspicious for melanoma need to undergo excision biopsy.
- Only naevi that are clinically suspicious for melanoma need to undergo excision biopsy.
- A two-tier histological grading system for atypia reduces interobserver variability and makes management pathways clearer.
- Lesions that are low grade or without atypia do not need to be re-excised if there is no clinically visible residual lesion.
- High grade/atypical lesions with positive histological margins should be re-excised with a narrow margin of normal skin.
- Lesions that are favoured to be melanoma in situ should be stated as such in the pathology report.
LENTIGO MALIGNA

Lentigo maligna (LM) is listed in the 2006 WHO classification of skin tumours as a subtype of melanoma in situ occurring in severely sun-damaged skin. This definition is in contrast to that used by some authorities, who restrict the use of the term to a precursor of melanoma that comprises a proliferation of single atypical melanocytes without confluent growth, nesting or pagetoid spread. This difference in opinion has caused considerable confusion. For uniformity and clarity, the WHO definition should be adopted. The term ‘lentigo maligna’ should not be used to describe an ‘atypical lentiginous melanocytic proliferation’, which should be described as such. For further disambiguation, the phrase ‘melanoma in situ, lentigo maligna type’, can also be used.

LM typically occurs on the face and is large, with mottled areas of different colours. These polymorphous areas represent a mixture and collision of melanocytic and pigmented non-melanocytic lesions, with regression playing a part in the appearance. The melanocytic areas are often variable in appearance, comprising an atypical lentiginous melanocytic proliferation that transitions into areas of melanoma in situ or even invasive melanoma. The superimposed non-melanocytic lesions often include solar lentigo, seborrhoeic keratosis, pigmented solar keratosis and intraepidermal carcinoma. For these reasons, partial biopsy is prone to underdiagnosis and multiple shave biopsies should be taken to sample each different area/colour. Histological margins can be difficult to define. There are promising results for the use of topical Imiquimod as adjuvant therapy when histological clearance has not been achieved.

Key points

- Lentigo maligna (LM) is a type of melanoma in situ and should be distinguished from atypical lentiginous melanocytic proliferations. The latter is an early precursor lesion that often co-exists with LM.
- LM lesions are made up of a mixture of melanocytic and non-melanocytic lesions. Partial biopsy is therefore, likely to lead to underdiagnosis.
- If complete excision is not feasible, multiple shave biopsies should be taken to sample each different area/colour.
- Histological margins can be difficult to define.
- There are promising results for the use of topical Imiquimod as adjuvant therapy when histological clearance has not been achieved.

LENTIGINOUS DYSPLASTIC NAEVUS OF THE ELDERLY/LENTIGINOUS MELANOMA

This is a controversial entity that has been described by different names. First described by Kossard in 1991, subsequent authors have described this lesion as lentiginous melanoma. It shares many clinical characteristics with LM but shows some histological differences. As with LM, the evolution from atypical lentiginous melanocytic proliferation to melanoma in situ is slow, taking in excess of 10 years in many reported cases. The name ‘lentiginous dysplastic naevus of the elderly’ should be avoided as this is a recognised precursor to malignant melanoma that has no biological relationship with true dysplastic/Clark naevus.

As with LM, lesions are often large and ill-defined, therefore partial biopsy is prone to underdiagnosis. As most lesions are on the back/trunk/limbs, they are amenable to complete excision and saucerisation is also acceptable in this case. The same problem with drifting single atypical melanocytes, as in LM, may be encountered.
**ACRAL PIGMENTED LESIONS**

The differential diagnosis of small acral pigmented lesions includes melanocytic lesions such as acral naevi and acral lentiginous melanoma, as well as non-melanocytic lesions such as tinea nigra and subcorneal haematoma. Dermoscopy can be used to assess the pattern of pigmentation (ridge versus furrow) to aid in the clinical diagnosis and the ‘furrow ink test’ can help to delineate the furrows. The dermoscopic pattern of subcorneal haematomas can be very similar to that of melanoma, with a parallel ridge pattern seen in many cases. The difference is that, in subcorneal haematoma, the pigmentation in the stratum corneum can be removed by scraping with a sterile needle.

Whilst advanced melanoma is often obvious clinically, acral junctional naevi (AJN) can be extremely difficult to distinguish from acral lentiginous melanoma in situ not only clinically but also histologically, for the following reasons. In AJN:

- The entire lesion may be composed of a proliferation of single melanocytes along the dermo-epidermal junction, without any nests
- Pagetoid scatter throughout the entire thickness of the epidermis can be seen centrally

It is essential, therefore, to perform excisional biopsies including a narrow rim of normal skin on all small suspicious acral pigmented lesions. Saucerisation is ideal as wounds heal well but they must be performed properly to ensure that the thick stratum corneum is penetrated to include epidermis and underlying dermis. Histological findings that are reassuring of benignity include:

- Circumscription and symmetry
- The presence of a dermal naevus component
- Lack of pagetoid scatter at the edge of the lesion
- Concentration of nests and single cells at the bases of the rete (furrows) with vertical columns of melanin pigment in the stratum corneum overlying the rete

As naevus nests are concentrated at the bases of the rete (furrows), specimens should be sectioned perpendicular to the furrow pattern. Parallel sections can result in a false impression of asymmetry and confluence of junctional nests. To ensure that specimens are handled appropriately in the laboratory, clinical notes on the request form should specify that the sample is from acral skin.

**Key points**

- Excisional biopsies should be performed on small, suspicious lesions as partial biopsies can lead to false positive results.
- Saucerisation is an excellent technique for removal of small acral lesions but must be deep enough to include the epidermis and dermis.

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**Fig. 2:** Melanoma in situ, lentiginous type, showing preservation of rete architecture and a proliferation of single cells as well as small nests.

**Fig. 3:** Poorly blocked and sectioned biopsy of an acral naevus, resulting in long confluent junctional nests resembling acral lentiginous melanoma.

**Fig. 4:** Acral naevus, same case as in figure 3, following re-embedding and sectioning in a plane perpendicular to ridge/furrow lines. The superficial portion has been lost due to previous poor embedding. The junctional nests are now clearly visible at the tips of the rete and a dermal component is also identified.
Primary Cutaneous Lymphoma
Dr Patricia Renaut & Dr Debra Norris, QML Pathology

- These are lymphomas that occur in the skin, with no evidence of systemic disease at diagnosis.
- Accurate diagnosis is essential as the prognosis can change from excellent to rapidly fatal, depending on the type of lymphoma.
- Expert review of biopsies is recommended.
- It is essential to distinguish between primary cutaneous lymphoma and secondary cutaneous involvement by systemic lymphoma as the treatment and prognosis can be stark.
- Referral for specialist review is required.

After gastrointestinal lymphoma, primary cutaneous lymphomas (PCLs) are the second most commonly occurring extranodal non-Hodgkin lymphoma. Whilst they are relatively rare (estimated at 1 in 100,000 yearly), some can have an aggressive, rapid clinical course and accurate diagnosis is essential.

They are a heterogeneous group of lymphomas that develop in the skin, as opposed to secondary cutaneous involvement by systemic lymphoma. Although some share histological, immunophenotypic and genetic similarities with their systemic counterparts, many are clinically and histologically distinct entities with quite different prognoses and therapeutic implications.

As such, distinguishing between primary and secondary cutaneous lymphomas is extremely important, particularly for the more indolent PCLs that do not require aggressive treatment. Referral for specialist review is essential as formal clinical staging is required to distinguish between the two.

As with systemic lymphoma, the classification of PCL is constantly being modified by advances in molecular pathology. These advances allow for more accurate classification and diagnosis, particularly in entities with overlapping morphology but very different clinical courses. The latest* revision of the WHO classification of lymphoid neoplasms, includes some changes to pre-existing PCL entities and also lists a new provisional entity (Table 1 overleaf). This table does not include extracutaneous lymphomas that frequently secondarily involve the skin.

Of the PCLs, approximately 65% are cutaneous T-cell lymphomas (CTCLs), 25% are cutaneous B-cell lymphomas and 10% are uncommon immature haematopoietic forms. Primary CTCLs can be divided into those with indolent or aggressive behaviour (Table 2). The indolent lymphomas often remain localised to the skin for many years but systemic spread may eventually occur with some. The aggressive lymphomas usually present with extensive skin involvement at the time of diagnosis. Systemic symptoms and rapid spread to other organs are also common in the aggressive lymphomas, with the exception of Sézary syndrome. In these cases, distinguishing between a PCL and secondary skin involvement is less important than for the indolent lymphomas.

Table 1: Primary cutaneous lymphomas in the 2016 Revision of the WHO classification of lymphoid neoplasms

<table>
<thead>
<tr>
<th>PRIMARY CTCLs WITH INDOLENT BEHAVIOUR</th>
<th>PRIMARY CTCLs WITH AGGRESSIVE BEHAVIOUR</th>
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</thead>
<tbody>
<tr>
<td>Mycosis fungoides and variants</td>
<td>Sézary syndrome</td>
</tr>
<tr>
<td>Primary cutaneous CD30+ lymphoproliferative disorder (primary anaplastic large cell lymphoma and lymphomatoid papulosis)</td>
<td>Extranodal NK/T-cell lymphoma, nasal type</td>
</tr>
<tr>
<td>Subcutaneous panniculitis-like T-cell lymphoma</td>
<td>Primary cutaneous peripheral T-cell lymphoma, unspecified</td>
</tr>
<tr>
<td>Primary cutaneous CD4+ small/medium T-cell lymphoproliferative disorder (provisional entity)</td>
<td>Primary cutaneous aggressive epidermotropic CD8+ T-cell lymphoma (provisional entity)</td>
</tr>
<tr>
<td>Primary cutaneous acral CD8+ T-cell lymphoma (provisional entity)</td>
<td>Primary cutaneous gamma/delta-positive T-cell lymphoma</td>
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</tbody>
</table>

**CUTANEOUS T-CELL AND NK-CELL LYMPHOMAS**

- Mycosis fungoides (MF) 
  - Mycosis fungoides variants and subtypes
- Sézary syndrome
- Adult T-cell leukaemia/lymphoma
- Primary cutaneous CD30+ lymphoproliferative disorders
- Subcutaneous panniculitis-like T-cell lymphoma
- Extranodal NK/T-cell lymphoma, nasal type
- Primary cutaneous γ/δ T-cell lymphoma
- Primary cutaneous peripheral T-cell lymphoma, unspecified
- Primary cutaneous peripheral T-cell lymphoma, provisional entities
  - Primary cutaneous aggressive epidermotropic CD8+ T-cell lymphoma
  - Primary cutaneous CD4+ small/medium T-cell lymphoproliferative disorder
  - Primary cutaneous acral CD8+ T-cell lymphoma (new)

**CUTANEOUS B-CELL LYMPHOMAS**

- Marginal zone B-cell lymphoma (PCMZL)
- Follicle center lymphoma (PCFCL)
- Diffuse large B-cell lymphoma, leg type (PCDLBCL)

**BLASTIC PLASMACYTOID DENDRITIC CELL NEOPLASM**

(Formerly CD4+/CD56+ hematodermic neoplasm or blastic NK cell lymphoma)

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**Fig 1:** Relative Frequency of Cutaneous Lymphoma Classified by WHO-EORTC Classification
Dr Patricia Renaut graduated from St Bartholomew’s Hospital Medical School, London, (MBBS; BSc (Hons)) where she obtained a distinction in Pathology. In 2006 she completed her specialist training in Pathology in Queensland.

Prior to Dr Renaut’s appointment at QML Pathology, she worked as a Consultant in Anatomical Pathology at the Princess Alexandra Hospital, mainly focusing on breast, haematolymphoid, renal, GI and skin pathology as well as cytology. During this period, Dr Renaut created the state-wide amyloid diagnostic and mass spectrometry subtyping service, which has aided in the confident subtyping of amyloid.

Dr Renaut joined QML Pathology in 2014 as a Consultant Histopathologist and Cytopathologist. She has co-authored articles for several publications including Internal Medicine Journal, Pathology, and the Journal of Biomedicine and Biotechnology. Her special interests include skin, haematolymphoid, breast and GI pathology.

QML Pathology Surgical Skin Audit

The current QML Pathology Surgical Skin Audit allows doctors to conduct a review of their clinical practice; assessing their identification processes, detection rates, diagnostic and histological accuracy, margin clearance and treatment rates overall in the practice setting, and is worth 40 CPD Category 1 points with a QI status.

Once again the QML Pathology Surgical Skin Audit remains a firm favourite for doctors in Queensland and northern New South Wales, with many practitioners continuing with their activity despite achieving college requirements. The one page easy to read report gives the practitioner all the necessary clinical information to assess their skills, identification of lesions and accuracy.

QML Pathology is pleased to continue this audit into the 2017-2019 triennium subject to review and approval from the RACGP & ACRRM.

Following approval from colleges in early 2017, active participants and newly registered doctors will be receiving a welcome pack from the Education Team which will include all necessary documentation that you will require. Doctors currently actively registered in the Surgical Skin Audit will be automatically rolled over into the next triennium. If you are unsure of your registration status please do not hesitate to contact your local MLO or the Education Team at education@qml.com.au

If you currently are not registered for our Skin Audit simply complete the early registration form on page 11 to start in the new triennium.
Dysglycaemic States and Diabetes Mellitus

• More than 100,000 Australians have developed diabetes in the past year\(^1\)
• Total annual cost impact of diabetes in Australia is estimated at $14.6 billion\(^1\)

Diabetes has been referred to as the largest epidemic of the 21st century and the biggest challenge currently confronting Australia’s health system\(^1\).

According to the 2014/2015 BEACH survey, diabetes accounted for 4% of patient encounters with a GP in that year, making it the third most frequently managed chronic condition in general practice\(^2\).

In order to assist doctors with diagnosis and management of diabetes mellitus, QML Pathology has developed the diabetic summary report and a brand new audit.

QML Pathology is proud to announce two exciting new tools to assist you in the identification and management of your patients with dysglycaemic states and diabetes mellitus.

**SUMMARY REPORTING DIABETES MELLITUS**

The QML Pathology diabetic summary report has been developed and is now available to assist doctors in the management of dysglycaemic states/impaired glucose and diabetes mellitus. The report will display the following tests that are available from QML Pathology to assist in diabetes diagnosis and management:

- Glucose
- HbA1c
- eGFR
- Fructosamine
- Total Cholesterol, HDL-C, LDL-C and triglycerides*
- Urinary microalbumin
- 1,5-AG.

This report will enable easier review of results for your patients for up to four episodes.

Please use the pathology request form to order these tests.

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* If you request Lipid Studies (Medicare item 66503), your report will only contain Total Cholesterol and triglycerides. You will need to additionally request HDL (Medicare Item 66536) separately to receive a full Lipid Profile (Total Chol, HDL-C, LDL-C and triglycerides).

Please contact your Medical Liaison Officer to be set up to receive the diabetic summary report.

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The Dysglycaemic States and Diabetes Mellitus Audit has two key components:

1. Identification, monitoring and regular review of your patients with dysglycaemic states (who have presented to QML Pathology for their blood testing) to enable easier patient recall for further diagnosis.

2. Monitoring of patient compliance in those patients already diagnosed with type 1 or 2 diabetes mellitus. Graphical presentation of HbA1c results with targets individualised according to your patients and their co-morbidities.

**AUDIT OVERVIEW**

When a doctor registers for the audit, all pathology submitted by the doctor in the previous 3 months is examined, in order to extract results for patients with dysglycaemic states, in addition to results for patients already diagnosed with type 1 and 2 diabetes. This will enable doctors to identify which of their undiagnosed patients are at high risk of developing diabetes and evaluate how well their diagnosed patients are controlling their diabetes within a detailed timeframe.

It is anticipated that the audit’s findings will contribute to a review and assessment of potential additional strategies in the surgery setting for optimal patient follow-up and management to ultimately improve patient outcomes.

**REQUEST FORMS**

There is no special pathology request form required for this audit - doctors can continue to utilise their preferred QML Pathology request form.

Any request submitted via a QML Pathology request form will be automatically added to the audit data. Patients can present at any of our conveniently located approved collection centres. Please see our website qml.com.au for the most up to date listings.

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**FEATURES OF THE AUDIT**

In the month following registration (post January 2017) doctors in the Dysglycaemic States and Diabetes Mellitus audit will receive via email an initial report containing three months retrospective patient data to establish a baseline as a reference position.

Follow up snapshot reporting will be supplied to the doctor via email at three and six months.

In addition to the above audit reports, doctors will receive an itemised list, in hardcopy, of those patients who have shown abnormal results for dysglycaemic states and who have not presented to QML Pathology for further testing.

The diabetes summary report as detailed on page 8 will also be provided for individual patients registering an elevated glucose level. This will be available through your usual result delivery mechanism.

The final audit report will provide an overall summary and be accompanied by a formal audit evaluation report which will require completion by doctors in order to attain their college approved points.*

Following RACGP/ACRRM approval of points, practitioners will receive a certificate of completion for their records*.

**RACGP QI & CPD AND ACRRM PROGRAM**

This audit is still subject to RACGGP and ACCRM approval. After participants appropriately complete all the required elements of the audit including the audit evaluation, the QML Pathology Education Team will upload successful doctors to RACGP/ACRRM for approval. Once approved by respective colleges, doctors will receive a certificate of completion for their reference.

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To submit an early registration for this audit* for the 2017-2019 triennium please complete the early registration form on page 11 and submit via email to education@qml.com.au

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Please note - Patient figures and statistics included in the reporting can only reflect those patients who have been referred and presented for testing at QML Pathology. Gestational diabetes is excluded from this audit.
Our programs have been widely recognised within the medical community and governing bodies for offering relevant, topical, pertinent and varied educational programs for General Practitioners, Practice Nurses and Specialists, which fulfil accreditation criteria for respective Colleges.

2014-2016 TRIENNIAL
QML Pathology has been very active once again in the field of continuing education throughout this triennium, providing the highest quality medical education in city and rural areas of Queensland and New South Wales for the medical community.

We are now approaching the end of the current GP triennium. The pathologists, education team and staff of QML Pathology, would like to thank all participants who have attended our many and varied education sessions, as well as those who have taken part in our audits. We would also like to thank all of our specialist speakers who have given up their time, knowledge and expertise, to assist in ongoing education for the medical community.

We thought it would be opportune for us to inform all clinicians of some of the achievements and statistics from QML Pathology education for this triennium. Over 24 different activities have been hosted and run by QML Pathology. Over 4,500 doctors have either attended events and/or completed audits hosted by QML Pathology. Over 65% of doctors completing the QML Pathology audits continue to partake just for the clinical statistics and data.

Congratulations to all on the above. Please be aware we have three (3) more uploads scheduled for December for both audits and our final event of the year. We have received some enquiries about the rollover into the new triennium, so I thought I would take this time to clarify that all current totals you may have accumulated in this triennium will revert back to zero (0) in line with RACGP requirements. As we draw to a close, can I remind all doctors to ensure that you have received your certificates with your name clearly noted and the activity number of the event/audit that you have participated in. If you have any further queries please do not hesitate to contact us.

2017-2019 TRIENNIAL
We are very excited for the new triennium as our plans include ALMs, small group learning, Cat 2 events as well as the ever popular Surgical Skin Audit and Cytology Pap Smear® Audits, both of which will be subject to approval by the RACGP and ACRRM.

*Please note the Cytology Pap Audit will close in line with National Cervical Screening Program’s “The Renewal” implementation date.*

For doctors currently actively registered in our audits, your registration will automatically roll over into the next triennium and you will be receiving the relevant confirmations in due course. To make it easy to activate other/new QML Pathology audits, we have included on the adjoining page an early registration form for the next triennium that, once completed and received, will register you for any or all of the QML Pathology audits.

NEW
As detailed on page 9, QML Pathology is very pleased and proud to announce the release of our latest audit, which will be available **subject to review and approval by the RACGP and ACRRM for the 2017-2019 Triennium.** This audit will assist doctors in patient management of dysglycaemic states and diabetes mellitus.

Early registration for our new audit is NOW available. Simply complete, scan and email this form to education@qml.com.au

Finally we would like to wish all a very peaceful and safe festive break, and we look forward to another busy triennium.

Warm regards,
the QML Pathology Education Team.

Phone: **07 3121 4453** or **07 3121 4565**
Fax: 07 3121 4478
Email: education@qml.com.au
QML Pathology Audits* 2017-2019 Triennium
(*Subject to RACGP and ACRRM approval)
ALL AUDITS* TO COMMENCE IN JANUARY 2017

Please complete all sections below. Please note: Supplying your RACGP QI&CPD/ACRRM number and email address is vital for us to accurately allocate your education points.

DOCTOR INFORMATION
Last Name: ____________________________ First Name: ____________________________ Middle Name: ____________________________
QML Dr. Code (if known): ____________________________ RACGP QI&CPD/ACRRM No.: ____________________________

WHICH AUDIT/S WOULD YOU LIKE TO REGISTER FOR? - PLEASE TICK

- Surgical Skin Audit
- Dysglycaemic States and Diabetes Mellitus Audit
- Cytology Pap Smear Audit*

CONTACT DETAILS
Provider No.: ____________________________
Practice Address (Primary Location): ________________________________________________________________
Suburb: ____________________________ State: ____________________________ Postcode: ____________________________
Phone: ____________________________ Fax: ____________________________ Mobile: ____________________________
Email Address: ____________________________
Other Practice Location: ____________________________ Phone: ____________________________ Provider No.: ____________________________

Please Note: Specific pathology request forms must accompany all specimens submitted to the Surgical Skin Audit and Cytology Pap Smear Audit. Any specimens submitted without the required request form cannot be counted in the audit. *The Cytology Pap Smear Audit will close in accordance with National Cervical Screening Program’s “Renewal” implementation date. The Dysglycaemic States and Diabetes Mellitus Audit does NOT require special request forms. Patient figures and statistics included in all QML Pathology Audit reporting can only reflect those patients who have been referred and presented for testing at QML Pathology. Doctors will receive reports only relevant to the audit/s they have registered with as above.

DOCTOR’S SIGNATURE ____________________________ Date: ________ / ________ / ________

Complete, scan and email this early registration form to education@qml.com.au

*EDUCATION POINTS Applications submitted for accreditation with RACGP for 40 Cat 1 points QI approved and ACRRM for 30 PRPD points, and is subject to review and approval in accordance with the 2017-2019 triennium.

PRIVACY All information supplied will be treated in accordance with the Privacy Amendment (Private Sector) Act 2000 and the National Privacy Principles. Only de-identified information will be supplied. No identifying demographic details of either the patient or the referring doctor will be released.
**Generation** is a highly efficient, accurate, non-invasive prenatal screening test, based on Whole Genome Sequencing (“WGS”) with proprietary algorithms, that analyses circulating cell-free fetal DNA from a maternal blood sample from as early as 10 weeks gestation.

The clinical utility and benefit of the **Generation** test has been demonstrated in all pregnant women - regardless of age or risk category - in numerous publications, including studies in the New England Journal of Medicine, as well as reports with cohorts of over 34,000 patients.1, 2, 3, 4

### What does the **Generation** NIPT test for?

**Generation** NIPT screens for the most commonly seen and tested chromosomal anomalies, including:
- **Trisomy 21** (Down syndrome)
- **Trisomy 18** (Edwards syndrome)
- **Trisomy 13** (Patau syndrome)
- Sex chromosome abnormalities

The following more rarely occurring genetic abnormalities can also be tested for by requesting **Generation** Plus:
- **Trisomy 9**
- **Trisomy 16**
- **Common microdeletions**
  - DiGeorge syndrome (22q11.2 deletion syndrome)
  - Angelman syndrome
  - Prader-Willi syndrome
  - Wolf-Hirschhorn syndrome
  - Cri-du-chat syndrome

### Why use **Generation** NIPT?

**Generation** uses whole genome / genome-wide sequencing which investigates more abnormalities, requires less fetal DNA, and has a lower failure and re-collection rates, compared to other methods.5, 6, 7, 8.

### Who should be offered the **Generation** NIPT test?

Numerous studies have conclusively demonstrated the benefits for NIPT in women with a high risk pregnancy, including:
- Women aged over 35
- Women with abnormal first trimester combined biochemical and ultrasound findings
- Women with a family history of chromosomal abnormalities
- Women with a high risk for invasive testing (e.g. IVF)

In addition, there is significant evidence to suggest that women in a normal risk population could also benefit from NIPT, particularly for peace of mind.

### How much does **Generation** NIPT cost?

The cost of this test is $395* (or $495* if requesting **Generation** Plus) and is NOT Medicare rebatable.

*Prices are correct at time of printing and are subject to change without notice. This testing will incur additional costs. It is highly recommended that testing for microdeletion syndromes be accompanied by specialised genetic counselling.

### For more information on **Generation** NIPT

Please visit [genomicdiagnostics.com.au](http://genomicdiagnostics.com.au) or call us on **1800 822 999**
MedWay
Real-Time Results... Anytime, Anywhere

MedWay and MedWay Mobile, the web-based application by QML Pathology.
To register for QML Pathology’s online results service, visit medway.com.au

INSTANT ACCESS
As soon as the result is available at the laboratory, it is available at MedWay – enabling you to view your patients’ results quickly, efficiently and securely over the internet.
With no paper to handle, instantaneous delivery and secure access, MedWay ensures your patients’ results are available on time, in real time, anywhere.

NEW FEATURES
✓ Increased search functionality and filters
✓ Unique username and password
✓ Update your account details online
✓ View pending requests
✓ Print off hard copy reports
✓ View interactive charts
✓ View cumulative results

MEDWAY - THE PERFECT SOLUTION
MedWay can be tailored to create a central register of all your pathology results. Customise your MedWay account so that you can:
✓ Consolidate all of your results into a single online database
✓ Group results from specific locations or doctors into a single online database
✓ Keep separate accounts for each separate location or doctor

ADVANTAGES
Access and manage only those results you wish to, tailor MedWay to include or exclude:
✓ Clinic pathology from multiple clinic locations
✓ Inpatient pathology
✓ Surgical pathology
✓ Include or exclude specific doctors/locations
All this from a single database, one single point of reference for real-time management of patient results.

MEDWAY ON THE GO
Got a tablet or mobile device?
Get access to your patients’ results anywhere, efficiently and securely. MedWay Mobile offers full functionality, giving you the ability to:
✓ View results
✓ View categories
✓ Search view flags
✓ Screen zoom
✓ Screen rotate

MEDWAY - SIGN UP & ACCESS
1. Go to medway.com.au
2. Enter your username and password

New Users: Click ‘Sign Up’ and follow the steps. Please note, initial sign up can only be done on a computer, not a mobile device. Specialists should always choose the Single Practitioner option to access enhanced capabilities.

Tip: Want to create a shortcut on your desktop? Go to File>Send>Shortcut to Desktop (Internet Explorer)
NAVIGATING MEDWAY

Use the links on the top menu bar to view the different pages available in MedWay: Home, Results, Requests, Search & Manage My Account

Tip: You can find shortcut filters for results in the ‘Quick Links’ on the Home page. You can use these to sort the results by different criteria, such as ‘All Urgent’

Tip: Go to Manage My Account page to change your default landing page (the first page you see after login)

RESULTS PAGE

This page displays the full list of available results. Click a patient name to view the Report Details page. Use the shortcut filter buttons at the top to view the results by All Abnormal, All Urgent, All Unviewed or All Results.

REQUESTS PAGE

This page displays results grouped according to pathology request. Click a patient name to view the Report Details page.

REPORT DETAILS PAGE

This page displays the report on a request level. Pending results are marked with a *. Click the ‘Print Results’ button to view a printable PDF version of the report.

MANAGE MY ACCOUNT PAGE

This page allows you to update details and display preferences.

FURTHER INFORMATION

To register, visit medway.com.au

Dr Theo Birch  BEc, BSc. MBBS FRACS (Plast.)
Dr Theo Birch is a plastic and reconstructive surgeon with more than seven years experience across Australia and internationally. Dr Birch established his private practice with Valley Plastic Surgery in 2016. He offers consultations both in Fortitude Valley and Auchenflower at The Wesley Hospital, and operates at both The Wesley and Brisbane Private Hospital. Dr Birch specialises in surgery of the head and neck, skin cancer, hand surgery and breast and facial aesthetics.

P: (07) 3488 8118 / F: (07) 3488 8119
E: info@valleyplasticsurgery.com.au

Dr. Erlich Sem  BMBS, MD, FRANZCOG (QLD)
Dr. Erlich Sem is a Gold Coast based physician specialising in obstetrics and gynaecology, with more than 16 years experience in high-risk pregnancies, general gynaecology and advanced laparoscopic surgeries. His special interest is in complex laparoscopic procedures including surgical treatment of severe endometriosis, fibroids and ovarian cysts, as well as total laparoscopic hysterectomy.

P: 07 5530 0770 / F: 07 5530 0687
E: reception@drerlichsem.com.au

The Doctors’ Noticeboard is a free service for medical practitioners. If you wish to place a notice, please email no more than 75 words to marketing@qml.com.au
The pathologists and staff at QML Pathology wish you a joyous festive season, filled with peace and good health.

QML Pathology is proud to support Heart of Australia

Heart of Australia is a program that embodies the most innovative approach to front-line specialist medical service delivery in generations, specifically aiming to help Australians whose lives are threatened by this nation’s vast distances. Heart of Australia’s customised road train – a specialist medical clinic-on-wheels – has travelled more than 180,000 km since starting on the road, covering an area of more than 450,000 square kilometres – to deliver fortnightly specialist medical investigation and treatment clinics to regional, rural and remote area communities across Queensland. Locations including Dalby, Goondiwindi, St George, Charleville, Roma, Emerald, Barcaldine, Longreach, Hughenden, Charters Towers, Winton and Moranbah. www.heartofaustralia.com.au

Festive season opening hours

Collection centre opening hours over the holiday period will be updated on our online Collection Centre Search.

- Locate collection centres within a desired region from suburb or postcode information.
- Obtain collection centre operational hours and contact information.
- Receive up-to-date public holiday or temporary closure times.
- Search for collection centres who perform specific tests.
- Find licence details and general centre features (e.g. on-site parking, on-site bathroom facilities, and test payment options).

To check hours please visit www.qml.com.au/CollectionCentres.aspx

Warfarin Care Clinic holiday closures

QML Pathology wishes to advise that the Warfarin Care Clinic will not be accepting any NEW REGISTRATIONS from 5pm on Wednesday 14th December, 2016. This service will re-open from 8am Tuesday 3rd January, 2017.

Patients who are currently monitored by QML Pathology and are being discharged from hospital will still be accepted during this time. However, patients discharged from hospital who are prescribed Clexane (LMWH) must remain under the care of the hospital, or be referred to their doctor until LMWH is ceased and INR returns to therapeutic range.
### Infectious Diseases Report

**GEOGRAPHIC DISTRIBUTION - OCT 2016**

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**FURTHER HISTORICAL CLINICAL DATA CAN BE OBTAINED BY CONTACTING MARKETING ON INFO@QML.COM.AU.**

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