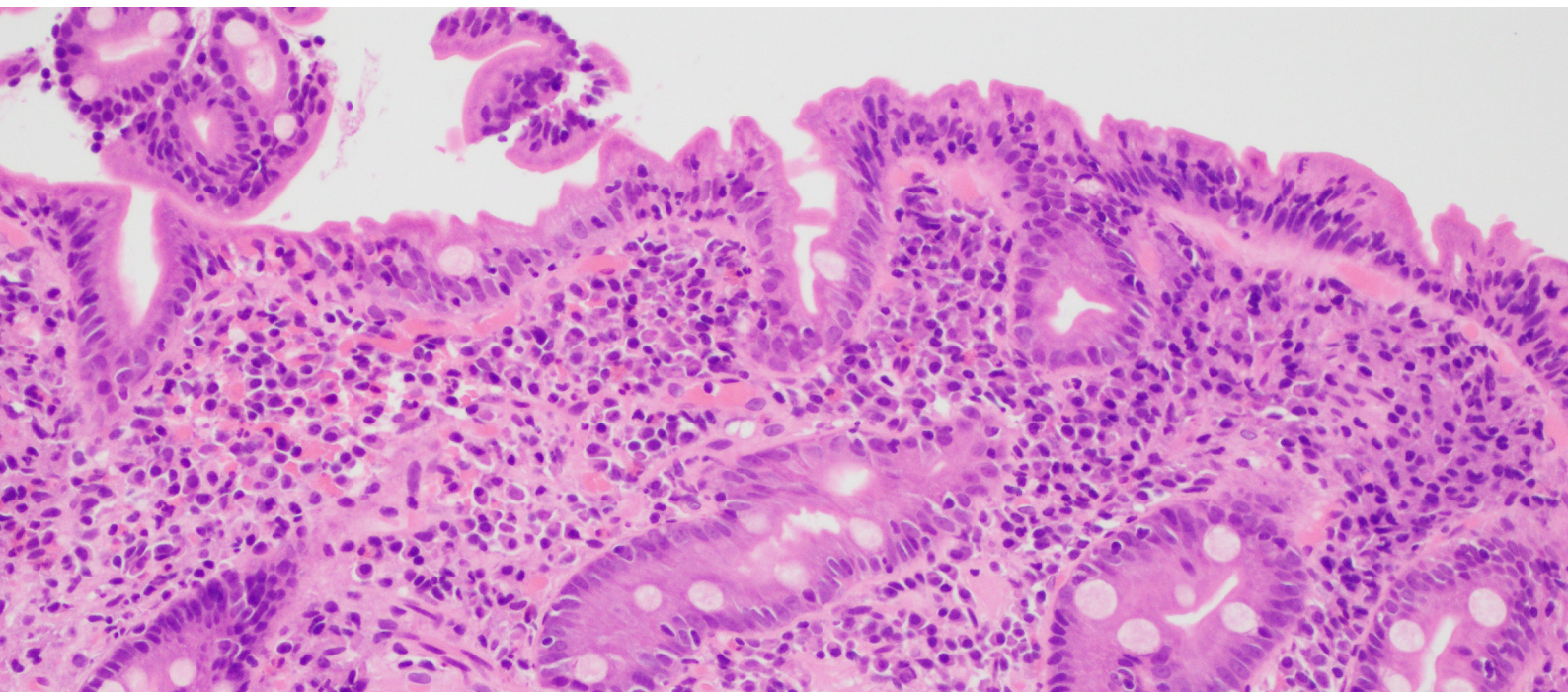


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ISSUE 4, 2015



Noncoeliac enteropathy: the differential diagnosis of villous atrophy in clinical practice

Dr Debra Norris, Histopathologist, QML

Coeliac disease (CD) is an autoimmune disorder, occurring in genetically susceptible individuals carrying either HLA-DQ2 or HLA-DQ8 encoding genes, primarily targeting the small intestine.

The current gold standard for the diagnosis of CD is small bowel biopsy documenting the presence of duodenal villous atrophy (DVA). However, whilst CD is the most common cause of DVA in the western world, villous atrophy may be seen as the end result of a variety of disorders and the differential diagnosis is broad.

Possible etiologies associated with DVA and absent coeliac serologies include: common variable immunodeficiency (CVID), autoimmune enteropathy, small intestinal bacterial overgrowth, infection, intestinal lymphoma, collagenous sprue, Crohn's disease, tropical sprue, medications.

Although the availability of accurate serological tests has led to an increase in recognition of CD, the diagnosis or exclusion

of CD can still be complicated, as a minority of patients with CD will be seronegative at diagnosis and others may show an extremely slow resolution of histological findings despite a strict gluten free diet, making the diagnosis uncertain. Also although anti-tTG, DGP and endomysial antibodies are highly sensitive and specific for the diagnosis of CD, the overall positive predictive values of these serologies are low. Thus even in the presence of an elevated titre of tTG antibodies, a small minority of patients with villous atrophy will be found NOT to have coeliac disease.

Similarly, symptoms considered classical for CD including diarrhoea, weight loss, abdominal pain, fatigue, plus vitamin B12/folate deficiency, occur more commonly in non coeliac enteropathy than in CD and are of little use in differentiating disorders. Similar to GIT symptoms, symptomatic response to a gluten free diet is NOT a specific test for CD, and may be seen in non coeliac enteropathy. Symptomatic response to GFD does not necessarily mirror histologic return to normal or differentiate between CD and non coeliac enteropathy.

In a recent study of 72 patients with villous atrophy and negative celiac serology (Am J Gastroenterol 2013; 108: 647-653), the most common diagnoses were seronegative CD, medication related villous atrophy and unclassified sprue.

Before labelling a patient as seronegative CD, other investigations MUST be undertaken, as this is uncommon, affecting less than 5% of patients with CD. HLAQ2/HLAQ8 testing should be undertaken in these patients. A negative test rules out CD with almost 100% sensitivity. Other useful tests include serum immunoglobulin levels, anti-enterocyte antibody, SIBO breath testing, Giardia stool PCR and HIV. Review by an experienced histopathologist to exclude the presence of intestinal lymphoma , or alternate pathologies is indicated. Seronegative CD will

show histologic response to a strict GFD on repeat biopsy (though this may be delayed).

Also, there must be careful attention to clinical history. Medication related villous atrophy was the second largest group in the series quoted above, causing villous atrophy with negative coeliac serology. Whilst some drugs are reasonably well known as causative agents (including methotrexate, mycophenolate mofetil, azathioprine), other drugs, in particular, olmesartan (angiotensin receptor blocker) have been more recently identified (responsible for 16 of 19 cases of drug associated DVA in quoted study).

Some of these clues, aetiologies and helpful investigations are listed in Table 1, with diagnostic algorithm for DVA in Figure 1.

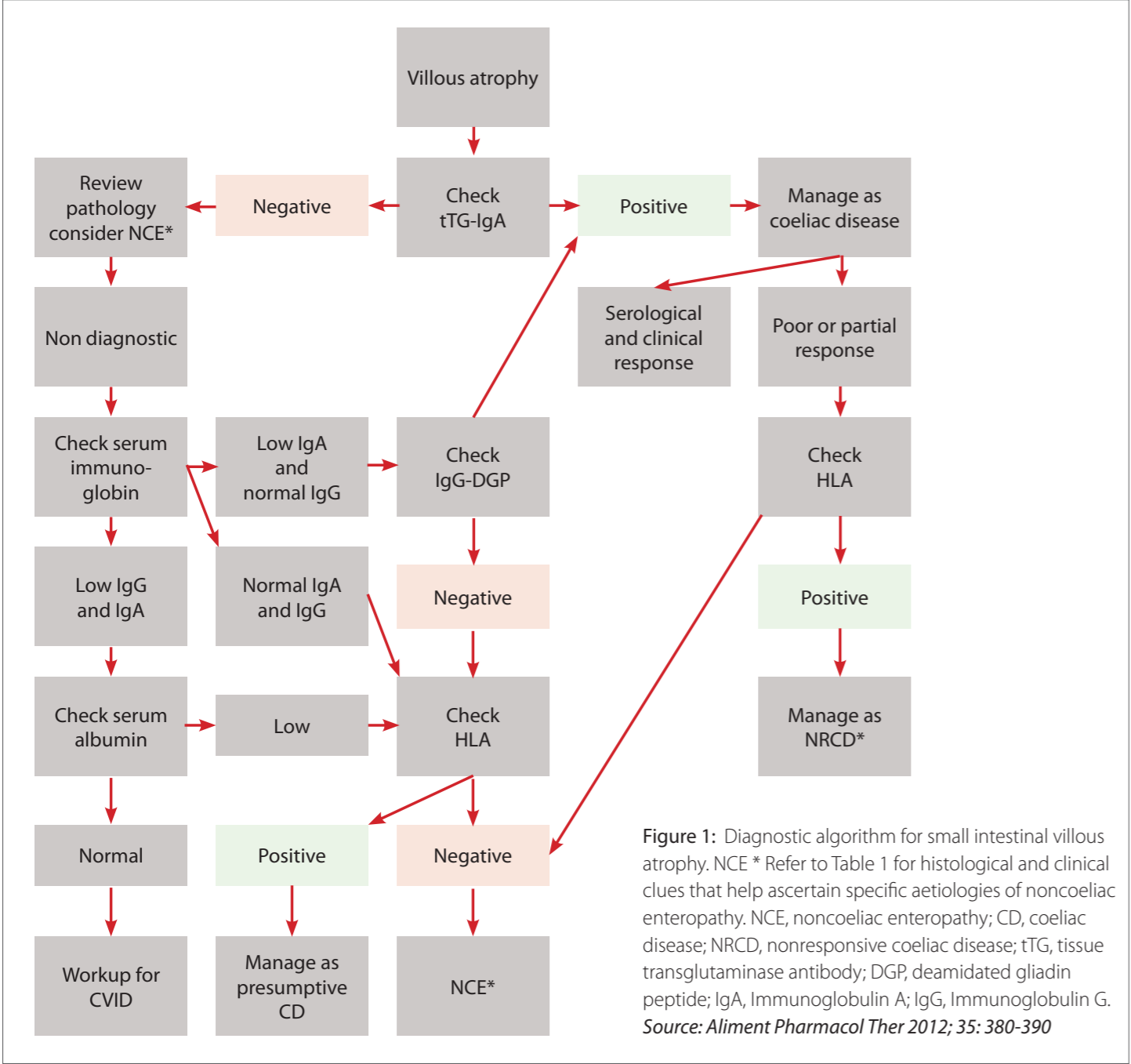


TABLE 1: AETIOLOGIES OF NCE* WITH HELPFUL CLUES, TESTS AND FINDINGS
Adapted from : Aliment Pharmacol Ther 2012; 35: 380-389

Clues	Suspected aetiology	Tests, suggestive histology
Recurrent infections	Common variable immunodeficiency	Low serum immunoglobulin concentrations
Multiple allergies, atopy	Food allergies	Serum IgE, positive allergy testing
Multiple allergies	Eosinophilic gastroenteritis	Elevated peripheral eosinophil count, eosinophilic infiltration of small bowel mucosa
Travel to endemic areas. Response to antibiotics	Tropical sprue	Involving both jejunum and ileum. Less intense damage than full blown CD
Acute self limiting illness	Post viral enteropathy	Negative testing
Peptic ulcer disease or improvement with acid suppressive therapy	Peptic duodenitis	Presence of neutrophils and acid related damage on duodenal biopsy
History of autoimmune conditions	Autoimmune enteropathy	Anti-enterocyte antibodies, active inflammation, deep epithelial lymphocytosis, increased crypt apoptotic bodies
Improvement with antibiotics	Small intestinal bacterial overgrowth	Glucose or lactulose breath test, positive duodenal aspirate. No specific biopsy findings besides villous atrophy, typically only modest, with increased lamina propria and surface inflammation.
Drug History: olmesartan, methotrexate, azathioprine, mycophenolate mofetil, NSAIDs, chemotherapy		Olmesartan significant association with collagenous sprue changes
Multilevel involvement of the intestine	Crohn's disease	Elevated ESR/ASCA† granulomatous inflammation of intestine
Refractory CD; other associations drugs, tropical sprue, CVID, paraneoplastic, idiopathic, other	Collagenous sprue	Sub-epithelial collagen deposits

*NCE, noncoeliac enteropathy

Negative coeliac serologies (TTG and DGP) and HLA DQ2 and DQ8 test results are not included in the Table but are paramount in identifying NCE

*Other aetiologies include: radiation enteritis, HIV enteropathy, Whipple's disease, Zollinger-Ellison syndrome, Giardiasis, intestinal lymphoma both indolent and aggressive, tuberculosis.

†ASCA Anti-Saccharomyces cerevisiae antibodies

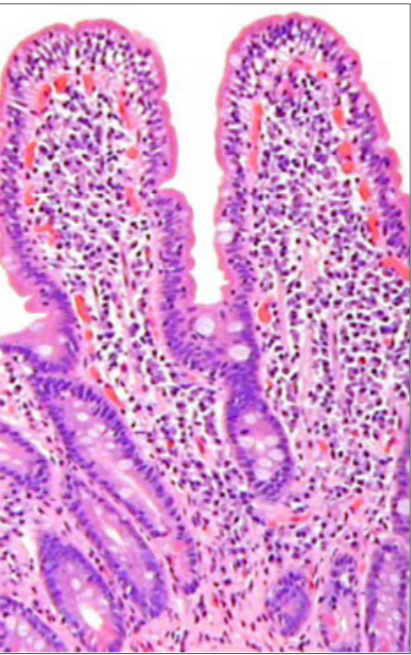


Figure 2: Coeliac Disease (Marsh 3A)

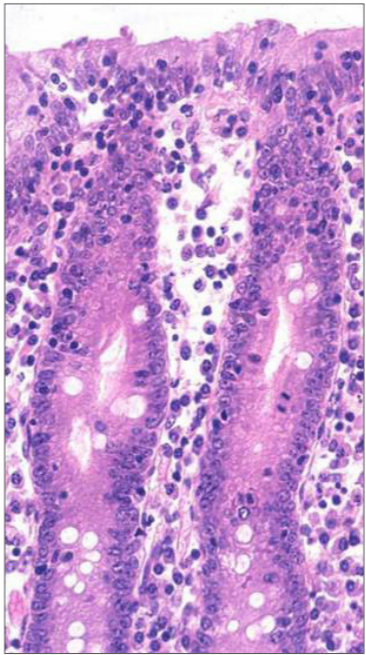


Figure 3: Coeliac Disease (Marsh 3C)

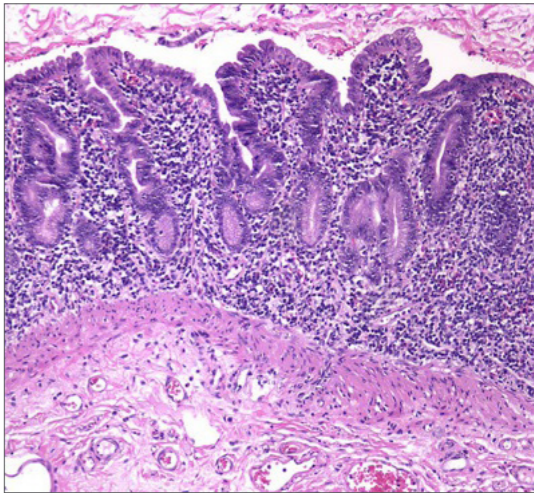


Figure 4: Autoimmune enteropathy

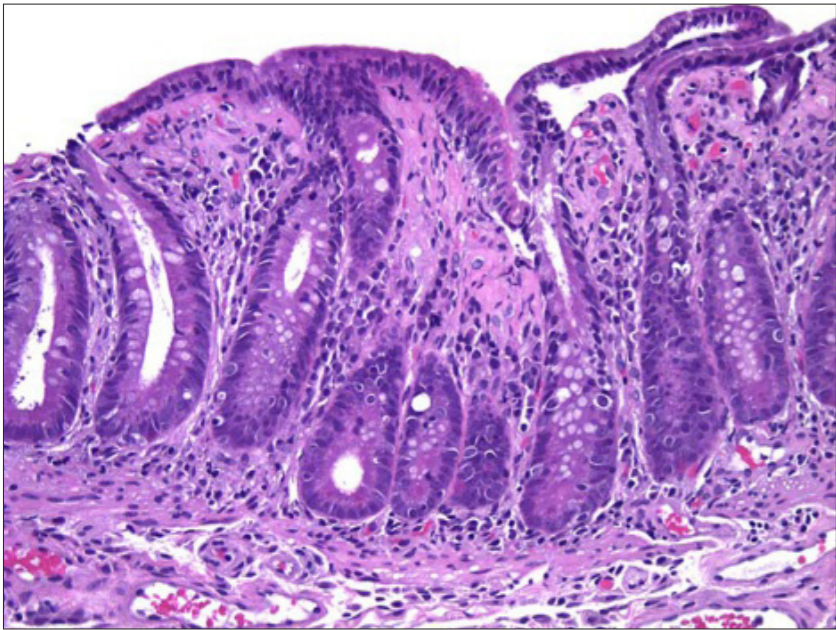


Figure 5: Collagenous sprue.

CONCLUSIONS:

Although coeliac disease is the most common cause of DVA, non coeliac enteropathy is not rare and may easily be mistaken for coeliac disease. Non coeliac enteropathy is suggested by:

- normal initial tTG
- lack of intraepithelial lymphocytosis on biopsy
- lack of histological response to gluten free diet

Subjective symptomatic response to gluten free diet has poor predictive value for coeliac disease. Non coeliac enteropathy can often be confirmed by negative HLA-DQ2/DQ8 testing and targeted investigations can ascertain a definite aetiology in most cases. Exclusion of medication associated villous atrophy is essential. The role of olmesartan and other angiotensin receptor blockers in enteropathy needs to be investigated further.

REFERENCES:

1. Walker MM, Talley NJ. Clinical value of duodenal biopsies--beyond the diagnosis of coeliac disease. *Pathol Res Pract*. 2011 Sep 15;207(9):538-44. (Epub 2011 Sep 22). Review.
2. Pallav K, Leffler DA, Tariq S, Kabbani T, Hansen J, Peer A, Bhansali A, Najarian R, Kelly CP. Noncoeliac enteropathy: the differential diagnosis of villous atrophy in contemporary clinical practice. *Aliment Pharmacol Ther*. 2012 Feb;35(3):380-90. (Epub 2011 Dec 6).
3. Greenson JK. The biopsy pathology of non-coeliac enteropathy. *Histopathology*. 2015 Jan;66(1):29-36. Review.
4. DeGaetani M, Tennyson CA, Lebwohl B, Lewis SK, Abu Daya H, Arguelles-Grande C, Bhagat G, Green PH. Villous atrophy and negative celiac serology: a diagnostic and therapeutic dilemma. *Am J Gastroenterol*. 2013 May;108(5):647-53.



Dr Debra Norris FRCPA
Pathologist in Charge: Histology
Medical Director

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Dr Debra Norris graduated from The University of Queensland with a MBBS Hons in 1984. Dr Norris trained in histopathology at the Mater and Princess Alexandra Hospitals, obtaining her fellowship in pathology in 1994. In 1997, Dr Norris undertook a fellowship in haematopathology at Massachusetts General Hospital with world renowned authority Dr Nancy Harris.

She worked as a Staff Histopathologist at the Mater Hospital before joining QML Pathology in October 2002 as a Consultant Histopathologist, becoming Medical Director in 2005.

Dr Norris has extensive experience in lymphomas and is consulted by Medical Practitioners from around Australia. Dr Norris was on the Australian committee establishing both diagnostic guidelines and synoptic reporting of lymphoma. Dr Norris is currently a member of the European Association of Hematopathology.

Her special areas of interest are lymphoma (including nodal, extranodal and cutaneous lymphoma), gastroenterology and dermatopathology.

PATHOLOGIST PROFILE

HPV reference for referrers
‘High Risk’ HPV testing as ‘Test of Cure’ following treatment for High-Grade cervical lesions.

HPV typing has been shown to be as sensitive as cytology in identifying women at risk of developing further high-grade disease. However, it is the strong negative predictive value of HPV testing that has most clinical use.

Many studies have confirmed 98-100% negative predictive value for HPV testing. Women who test negative for high risk HPV subtypes following treatment for CIN 2 or 3 have a very low risk of further high-grade cervical abnormality. As the prevalence of HPV positivity falls sharply during the first year post treatment, it is recommended that HPV testing is performed at 12 and 24 months post treatment in conjunction with cytology. Once a woman has tested negative by both tests on two consecutive occasions, it is recommended that she return to the normal two yearly screening interval rather than annual cytology.

SPECIMEN COLLECTION

Specimen collection is by scraping cellular material from the cervix in the same manner a Pap smear is collected. The sample may be collected into a SurePath™ or a ThinPrep® vial. If you wish to also have a SurePath™ or ThinPrep® Pap test done from the vial (in addition to the HPV test) this must be specifically requested, and will incur a fee of approximately \$45.00, which remains non-rebatable. (Other tests for infections such as Chlamydia, Gonococcus etc. can also be performed from the SurePath™ or ThinPrep® vial and will be billed appropriately).

MEDICARE REBATE

The Medicare item number 69418 reads:

A test for high risk human papillomaviruses (HPV) in a patient who:

- *Has received excisional or ablative treatment for high-grade squamous intraepithelial lesions (HSIL) of the cervix within the last two years; or*
- *Who within the last two years has had a positive HPV test after excisional or ablative treatment for HSIL of the cervix; or*
- *Is already undergoing annual cytological review for the follow-up of a previously treated HSIL.*
- *To a maximum of 2 of this item in a 24 month period*

It is important to note that the eligibility applies only to women who have had treatment for a high-grade squamous lesion (CIN2-3) and not CIN 1. If you are ordering the test and the patient is eligible for the rebate outlined above, it is critical that you specify this on the request form, as patient screening histories are not always known by the laboratory performing the test.

If you request a test for ‘high risk’ HPV but do not specify the patient fits these conditions, your patient will be automatically billed the full amount of \$55.

Other uses of HPV testing e.g. screening, are currently NOT covered by Medicare. This may change as the National Cervical Screening Program changes in mid 2017.



Introducing QML Pathology’s Genomic Diagnostics

With over 20 years of experience and specialist labs across the country, we are one of Australia’s longest running nationally coordinated DNA testing organisations.

QML Pathology’s Genomic Diagnostics performs comprehensive DNA testing with heavy involvement from our expert pathologists and scientists.

Our network of laboratories has held accreditation to provide both simple and complex genetic testing for over 20 years. We continue to lead the way in pioneering innovative genetic tests by developing and introducing the latest technologies to Australia, as well as by providing patients and doctors with access to over 3000 different genetic tests for rare and esoteric disorders, including molecular tests for more than 2000 genes through our international network.

Genetic tests can be performed for both non-inherited conditions (such as cancers and leukaemias) and inherited conditioned (such as cystic fibrosis). These may involve more traditional genetic tests such as conventional cytogenetic analyses, which are used in the diagnosis of haematological malignancy and to guide reproductive options, to more advanced genetic tests such as chromosomal microarray for the detection of syndromes associated with autism or developmental delay, and gene sequencing tests. Some genetic tests have significant predictive power (such as the ability to confidently predict future possibility of cancer or neurological disease) and have medical implications which require specific discussion between the doctor and patient, and at times require a written consent prior to testing.

QML Pathology’s Genomic Diagnostics strongly emphasises a consultative service between referring doctors and our genetic specialists. We are here to provide answers to all your questions about our tests, how to assess them, and their associated costs. We can help doctors and patients understand what the tests do, why they are being performed, and whether they are the most appropriate test.

Many routine diagnostic genetic tests can be requested using QML Pathology forms.

Some tests, particularly those with complex interpretive consequences, may require detailed clinical information and specialised request or consent forms. If you require further information or guidance about genetic testing requests or forms, please contact us.

Some genetic tests attract a full or partial rebate by Medicare and can be bulk billed at no direct cost to patients. Others require certain clinical conditions to be met in order to attract a rebate so it is important to include

appropriate clinical notes. Many genetic tests are not funded by Medicare and attract no rebate, thus patients may incur additional costs privately.

RECENTLY INTRODUCED NEW TESTS AND TECHNOLOGIES

Chromosomal microarray (CMA, or Molecular karyotype) is an advanced technique in genetic testing that detects copy number changes in a person’s chromosomes at a much higher resolution than conventional chromosome analysis (karyotype), and is used in a variety of clinical settings.

Chromosomal microarray can detect copy number changes down to 200,000 DNA basepairs (0.2 Mb) compared to a resolution of 5-10 million DNA basepairs (5-10 Mb) for conventional cytogenetic analysis.

Our laboratories are accredited to National Pathology Accreditation Advisory Council (NPAAC) standards for all applicable clinical settings for this technology, using best practice, established criteria for reporting abnormalities in accordance with guidelines developed by the Royal College of Pathologists of Australasia, and the Human Genetic Society of Australasia (HGSA).

Some of the clinical applications for this technology include:

PRENATAL MICROARRAY - NATA ACCREDITED

Prenatal microarray testing is the preferred technique in pregnancies where there are abnormal ultrasound findings or there is concern regarding a chromosomal imbalance (including family history of chromosome rearrangements), or abnormal pregnancy screening results.

Our laboratory uses a Single Nucleotide Polymorphism based microarray platform which is ideally suited to diagnostic applications.

This platform detects whole chromosome and sub-microscopic imbalances including duplications and/or deletions. Single Nucleotide Polymorphism based array platforms additionally identify large regions of homozygosity for the detection of syndromes involving imprinted genes such as Prader Willi and Angelman syndromes.

To order, request ‘Prenatal Microarray’ on a QML Pathology form. A rebate is available subject to Medicare guidelines and criteria.

CHROMOSOMAL MICROARRAY - NATA ACCREDITED

Chromosomal microarray is now regarded as the best practice first line test for patients with intellectual disability, two or more congenital abnormalities, autism spectrum disorder or developmental delay. This technique represents a significant advance in cytogenetic testing with an increase in the diagnostic rate in these clinical settings (15% vs. 2-3% by conventional cytogenetics).

As above, the technique detects chromosome imbalances including duplications, deletions and aneuploidies as well as large regions of homozygosity for the detection of syndromes involving imprinted genes such as Prader Willi and Angelman syndromes.

To order, request ‘Chromosomal Microarray’ on a QML Pathology request form. A rebate is available subject to Medicare guidelines and criteria.

Turnaround time is 21 – 28 business days, as per best practice guidelines.

HAEMATOLOGICAL MICROARRAY - NATA ACCREDITED

Chromosomal microarray is most useful in the investigation of the following haematological malignancies:

- Acute Lymphoblastic Leukaemia (ALL)
- Acute Myeloid Leukaemia (AML)
- Myelodysplastic syndrome (MDS)
- Chronic Lymphocytic Leukaemia (CLL)

The test is regarded as a complementary investigation and may be beneficial where no genomic alterations have been detected by conventional techniques such as karyotype and FISH, or where a cytogenetic result has not been achieved due to the failure of cell culture. The additional genetic information provided in this setting may assist in patient management.

The Single Nucleotide Polymorphism Microarray platform contains high density, 750,000 probe coverage specifically targeting 526 cancer genes. The high resolution and genome-wide coverage combined with minimal DNA requirements, and relatively short turnaround time allows chromosomal microarray analysis to be advantageous for use in a clinical setting.

To order, request ‘Microarray Analysis’ on a QML Pathology form. A rebate is available subject to Medicare guidelines and criteria. Turnaround time is 28 business days for routine cases and 10 business days for urgent cases.

TUMOUR MOLECULAR PROFILING - NATA ACCREDITED

Tumour molecular profiling is now a key component of tailored management for oncology patients. Molecular characterisation, along with other more traditional tests, provides a foundation for disease classification as well as prognostic and therapeutic decision-making.

Our standalone tumour genetic profiling utilises the Illumina TruSight Tumour panel, a targeted gene sequencing panel, which detects hundreds of DNA variants (hotspot mutations) in 26 solid tumour-associated genes, developed using emerging and established clinical guidelines in the treatment and classification of common solid tumours.

Simultaneous testing for DNA variants in multiple genes:

- saves time
- avoids the need for multiple tests
- identifies correct treatment pathways more quickly

The genomic regions examined are ideally suited in clinical settings of melanoma, lung, colon, gastric and ovarian malignancies, and allow confident detection of DNA variants occurring above a 3% frequency.

The 26 genes and regions included in the profile have been developed through consultation with the College of American Pathologists, the National Comprehensive Cancer Network guidelines, and from the results of late stage clinical trials.

Genomic Diagnostics is NATA-accredited for next generation sequencing, enabling eligible patients to access this service at no cost.

To order, request ‘Tumour Molecular Profiling’ on a QML Pathology request form (completed by a specialist or consultant physician to be eligible for Medicare rebate).

Complete a payment form (for private non-MBS eligible patients only; please contact laboratory). Bulk-billed for patients fulfilling Medicare eligibility criteria.

Turnaround time for a Standard Service: 7 working days from receipt of tissue sample.

Continued overleaf...



QML PATHOLOGY GENOMIC DIAGNOSTICS TEAM

Each of the members of our senior team have worked in a nationally recognised leadership role as academics, researchers, and diagnosticians. They have also participated in professional societies at the highest levels through their contributions to the development of testing guidelines and standards, or as examiners and speakers.

We bring our experience to you and we are available for advice and consultation on technical or clinical matters. QML Pathology's Genomic Diagnostics is not just about providing a result. We are here to support your management decisions by providing guidance about the best choice of tests, helping in the interpretation of results, and by ensuring that testing provided meets the highest quality and accreditation standards.

Dr Melody Caramins Med, PhD, FFSc, FRCPA

QML Pathology's Genomic Diagnostics is headed by Dr Melody Caramins.

Dr Caramins is a nationally recognised expert in the field of genetics, holding both medical and scientific specialist qualifications. She has over 20 years of experience working in medicine and pathology, in roles including direct healthcare delivery, research, and in the provision of diagnostic services at a senior level in both public and private healthcare settings.

Dr Caramins was awarded her FRCPA in 2006 as Australia's first graduate from the Genetic Pathology program, with her training undertaken in Sydney at Royal Prince Alfred Hospital and Prince of Wales Hospital. She has a longstanding interest in improving patient care by integrating research, clinical and diagnostic activities, and has published a number of journal articles highlighting this in diverse clinical settings including prenatal genetics, cancer genetics, and adult-onset genetic disorders. She continues to be an active advocate for greater access to genetic testing, and for greater inclusion of genetics in mainstream medicine through her ongoing teaching and committee activities nationally.

Ms Nicole Chia MScM, FHGSA, FFSc

Associate Professor Nicole Chia is a highly experienced clinical scientist, having begun working in the field of Clinical Cytogenetics in 1983. She is a Fellow of the Royal College of Pathologists of Australasia's Faculty of Science (FFSc., RCPA) and a Fellow of the Human Genetics Society of Australasia (FHGSA).

Nicole obtained her Master of Science degree in 2008 and is currently completing her PhD thesis. She has an international reputation in the field of Clinical Cytogenetics including a role as consultant to the International Standing

Committee on Human Cytogenetic Nomenclature. She has been an invited speaker at numerous international and national meetings and has a number of peer reviewed scientific publications, and is an active promoter of continuing education and a senior board member of the HGSA as Chief Examiner and Chair of the Cytogenetics Board of Censors.

In her role as Adjunct Associate Professor at Canberra University, Nicole continues to pursue her commitment to the education of medical scientists in the field of clinical and molecular cytogenetics, a rapidly expanding field of diagnostic pathology. Nicole is the Genetics Manager for QML Pathology, Specialist Diagnostic Services and currently manages an Australia-wide diagnostic Cytogenetic and Molecular Cytogenetic Service.

Dr Peter Taylor PhD, FHGSA

Dr Peter Taylor is a Molecular Geneticist with solid training in general pathology prior to commencing specialisation in 1986. Peter's clinical interests include oncogenetics and neuromuscular genetics. Early in his career, Peter performed research associated with the cloning of the estrogen receptor and its regulation and role in breast cancer at the University of New South Wales. Breast cancer genetics and the study of mutations associated with breast tumours has been an area of ongoing interest throughout his career. In his PhD thesis he reported the identification the cause of a newly described neuromuscular condition, determined the clinical utility of a comprehensive screening program for X-linked muscular dystrophy, and described the correlation between gene mutation location and cognitive defects in Duchenne muscular dystrophy. He has several highly read peer-reviewed papers and has contributed to numerous conference papers.

He is a Fellow of the Human Genetics Society of Australasia (FHGSA) and is the immediate past Chair for the Molecular Genetics Society of Australasia (MGSA), acting as an examiner for the annual examinations. He is the Scientific Director for Molecular Testing at QML Pathology's Genomic Diagnostics, Specialist Diagnostic Services, and currently manages human and animal molecular testing at Dorevitch Pathology, Victoria.

Dr Simon Cliffe PhD, FHGSA

Dr Simon Cliffe has worked in the field of medical genetics in diagnostic and research capacities for more than 11 years. He was awarded his PhD in 2012, in a project leading to the discovery of the genetic basis of two autosomal recessive genetic disorders, including publications in leading journals such as Nature Genetics and Human Molecular Genetics.

His diagnostic experience includes senior roles in academic hospital settings, and he was awarded his FHGSA in 2014.

He is a divisional head with reporting responsibility located in Victoria, and has a particular interest in translating novel research findings in inherited and somatic genetics into deliverable clinical tests for patients and doctors, with a focus on next-generation sequencing technologies.

Dr Serguei Kovalenko PhD

Dr Serguei Kovalenko obtained his PhD in Molecular Cytogenetics in 1992 investigating the pharmacogenomics of anthracycline antibiotics utilised in the treatment of cancer.

Prior to joining QML Pathology's Genomic Diagnostics, Serguei was Head of Medical Diagnostics at Genetic Technologies Corporation, and also served as Molecular Pathology Diagnostic Laboratory Manager at Peter MacCallum Cancer Centre in Melbourne. He is the author of more than 30 refereed articles, including prestigious journals such as Nature and Nature Genetics.

Dr Kovalenko is a curator of the MutaBase mutation database and an active member of the HGSA, EviQ, KConFab and HUGO professional societies. He is a divisional manager with reporting responsibility at our Melbourne site, with professional interests including the molecular basis of hereditary and somatic genetic disorders, molecular diagnostic testing and bioinformatic solutions for molecular diagnostics.

If you require information or guidance about genetic testing requests or forms, please call 1800 822 999, visit our website genomicdiagnostics.com.au or email us at info@genomicdiagnostics.com.au



The Pathologists and Staff at QML Pathology wish you a joyous festive season, filled with peace and good health.

Holter and ABP monitoring

QML Pathology, partnered with Cardioscan, is providing specialist Holter and Ambulatory Blood Pressure (ABP) monitoring. These tests offer a comprehensive overview of a patient’s cardiovascular system, including specialist reporting on cardio irregularities and blood pressure results.

Holter monitoring is used to investigate palpitations, arrhythmias, dizziness or fainting spells; to ascertain the effects of cardiac medications and can provide a complete analysis on patients with known cardiac conditions.

ABP monitoring provides a comprehensive 24 hour blood pressure profile. Allowing the analysis of clinic effects, drug effects and work influence, providing more information than isolated blood pressure readings.

A holter device continuously records activity from electrodes attached to the patient’s chest, including abnormal beats or rhythms, over a 24 hour period. Data is analysed by a cardiologist producing a specialist report detailing any irregularities found from the test.

ABP monitoring analyses ambulatory pulse waves, peripheral blood pressure and central haemodynamics. Each component is automatically measured over 24 hours and data used to create a haemodynamic day/night profile.

PATIENT PREPARATION

Patients are required to arrange an appointment for Holter and/or ABP monitoring with a QML Pathology collection centre.

HOW TO ORDER

Request ‘holter monitoring’ and/or ‘ambulatory blood pressure monitoring’ on a QML Pathology request form.

Holter monitoring performed by QML Pathology will be bulk billed*

Ambulatory blood pressure monitoring will attract a cost of \$88.00^

FURTHER INFORMATION

For further information please contact your Medical Liaison Officer.

Cardioscan adheres to the ‘Guidelines for Ambulatory Electrocardiographic Monitoring’, as presented to the Cardiac Society of Australia New Zealand and posted on 30.1.1.2001

*Bulk billing subject to Medicare guidelines & criteria.
^ Prices correct at time of printing and may be subject to change.

Vitamin D Medicare testing guidelines

Vitamin D has a critical role in calcium and phosphate homeostasis with low vitamin D status being linked to a diverse range of conditions including insulin resistance, cancer, autoimmune disease, cardiovascular disease, cognitive decline, depression, schizophrenia and susceptibility to infection.

As of November 1st, 2014, Medicare requires specific patient criteria in order for certain pathology tests to be bulk billed. 25-Hydroxyvitamin D will be available to be bulk billed when the patient:

- Has signs or symptoms of osteoporosis or osteomalacia; or
- Has increased alkaline phosphatase and otherwise normal live function tests; or
- Has hyperparathyroidism, hypo – or hypercalcaemia, or hypophosphataemia; or
- Is suffering from malabsorption (for example the patient has cystic fibrosis, short bowel syndrome, inflammatory bowel disease or untreated coeliac disease or has had bariatric surgery); or
- Has deeply pigmented skin or chronic and severe lack of sun exposure for cultural, medical, occupational or residential reasons; or
- Is taking medication known to decrease 25-OHD levels (for example anticonvulsants); or
- Has chronic renal failure or is a renal transplant recipient; or
- Is less than 16 years of age and has signs or symptoms of rickets; or
- Is an infant whose mother has established vitamin D deficiency; or
- Is an exclusively breastfeed baby and has at least one other risk factor listed in this criteria; or
- Has a sibling who is less than 16 years of age and has vitamin D deficiency.

1,25 Dihydroxyvitamin D will be available to be bulk billed:

- If the request for the test is made by, or on the advice of, the specialist or consultant physician managing the treatment of the patient; or
- The patient has hypercalcaemia and the request for the test is made by a general practitioner managing the treatment of the patient.

Please be aware that if the patient doesn’t fulfil the guidelines above a fee may apply. Vitamin D testing can be ordered by requesting ‘Vit D’ on a QML Pathology request form. Turnaround time on this test is 24 hrs.

Important changes to allergy testing at QML Pathology

The management of an allergic disorder firstly requires accurate diagnosis of the offending triggers or allergens which cause the condition. QML Pathology provides tests for allergy diagnosis including RAST/In vitro specific IgE detection, and specific IgE for native and recombinant component allergens. Our exceptional methodology utilises world leading technology including Phadia ImmunoCAP and ISAC systems. The detection of specific IgE is integral to the assessment and management of allergic disorders including.

- Allergic rhinoconjunctivitis
 - Atopic eczema
 - Asthma
 - Food allergy
- Stinging insect allergy
 - Certain drug allergies
 - Certain occupational allergies.

HOW TO ORDER

Request ‘RAST’ or ‘Specific IgE’ on a QML Pathology request form, followed by the individual allergens or mixes required for testing. In the case of the lab receiving unspecified requests for RAST, allergen testing will be based on the patient’s age and any clinical information supplied. In this scenario, the standard number of allergens/mixes tested is three.

A measurement of total IgE is useful in the interpretation of the significance of specific IgE and may be requested at the same time.

COST FOR ALLERGY TESTING

The Medicare benefit for specific IgE testing allows 4 testing episodes in a 12 month period. In the instance when a request contains more than 4 allergens, or allergen mixes; initial testing will be done on 4 allergens with additional allergy tests being processed at fortnightly intervals, up to a maximum of 4 episodes per 12 month period. If it is required that more than 4 allergens or mixes be tested together in a single episode, an out-of pocket charge will apply. Charges will also apply if there are more than 4 episodes of allergy testing within 12 months, or if component allergens are included in a request.

Out-of-pocket charges are summarised in the table below.

Scenario	Gap payment	Comments
> 4 allergens or mixes in a single episode	\$40.00	Non-specialist referrals only
> 4 episodes within 12 months	\$60.00 per episode	All referrals
Component allergens	\$40.00 per component allergen	All referrals

From the Education desk of QML Pathology

A Quality Improvement Cat 1 is mandatory for the 2014-2016 Triennium

Do You Have Yours?

We are very rapidly approaching the end of another busy year and are now only 13 months from the end of the Triennium for clinicians.

This Triennium has been successful with many category 1 and category 2 events being held throughout Queensland and New South Wales.

QML Pathology would like to thank and acknowledge all of those who have attended, enjoyed, and provided feedback on these events. We must also thank our specialist speakers who have provided both their time and effort in bringing a plethora of knowledge, reinforcement, and new advances to the medical community.

The RACGP 2014 – 2016 Triennium has witnessed an enhancement of the program by stipulating at least one category 1 activity must include a quality improvement component.

The RACGP states that inherent quality improvement includes the following;

- Clinical audit (40 points)
- PDSA cycles (40 points)
- Small group learning (40 points)
- Evidence based medicine journal club (40 points)
- Supervised clinical attachment (40 points)
- GP research (40 points)

The QML Pathology Surgical Skin and Cytology Pap Smear Audits are categorised through the RACGP as quality improvement activities. Thousands of Queensland and New South Wales doctors are enrolled in each audit to attain category 1 points and to achieve the quality improvement component of the program. If you are registered to participate in the Surgical Skin or Pap Smear Audit and have not yet achieved the requirements, please ensure you complete the appropriate specialised request form and send this in with each sample.

HELPFUL HINTS FOR AUDITS

- Both the Surgical Skin and Cytology Pap Smear Audits have specialised request forms which must be used to ensure your specimen is included in your audit count. To order these forms please use your stores request forms via your local laboratory.

- Each audit form needs to be completed accurately and in its entirety to ensure our system can provide you with your statistical information.
- Ensure the reverse side of the request form is completed for the Surgical Skin Audit.
- Ensure you tick all relevant clinical boxes of the request form for the Cytology Pap Smear Audit.
- The Cytology Pap Smear Audit was designed to report a patient’s positive HPV, Chlamydia, Gonorrhoea and Trichomonas results. Please include your swabs in the clinical tick box area for your practice statistical information.
- If you relocate surgeries or commence in a new practice please inform the QML Pathology Education team so we adjust and add the audits to your QML Pathology doctor code.
- Please make sure we have your RACGP & ACRRM numbers and email addresses available to us at registration. Providing these details at registration will guarantee a smooth transition for processing your achievements.

UPCOMING

Plans are already laid down for both category 1 and category 2 events throughout the state for 2016. These will be available shortly so please keep a look out for notifications in your area. QML Pathology looks forward to producing topical, appropriate, and first hand medical education to assist the community in providing enhanced patient care.

The QML Pathology Education team continues to evolve through streamlining and enhancing our internal processes to provide quality service to all doctors. We have also welcomed Tina Larder into the Education and Marketing department as our new Continuing Professional Development Coordinator.

If you have any queries regarding QML Pathology events or our Surgical Skin and Cytology Pap Smear Audits, please do not hesitate to contact Tina or myself.

Finally, we would like to wish all clinicians and practice staff a joyous festive season filled with peace and happiness.

Jo Wilson-Farr
Manager, Dr Education and Private Practice Development

To contact the education department:
Phone: 07 3121 4453 or 07 3121 4565
Fax: 07 3121 4478
Email: education@qml.com.au



Cytology Pap Smear Audit Registration



Please complete registration details & return via courier, fax (07) 3121 4478 or email education@qml.com.au

DOCTOR INFORMATION

Last Name: _____ First Name: _____

QML Dr. Code (if known): _____ RACGP QI&CPD/ACRRM No.: _____

HAVE YOU INCLUDED YOUR RACGP QI&CPD/ACRRM NUMBER?

PRACTICE INFORMATION

Practice Name / Address: _____

Practice Email Address: _____



Surgical Skin Audit Registration



Please complete registration details & return via courier, fax (07) 3121 4478 or email education@qml.com.au

DOCTOR INFORMATION

Last Name: _____ First Name: _____

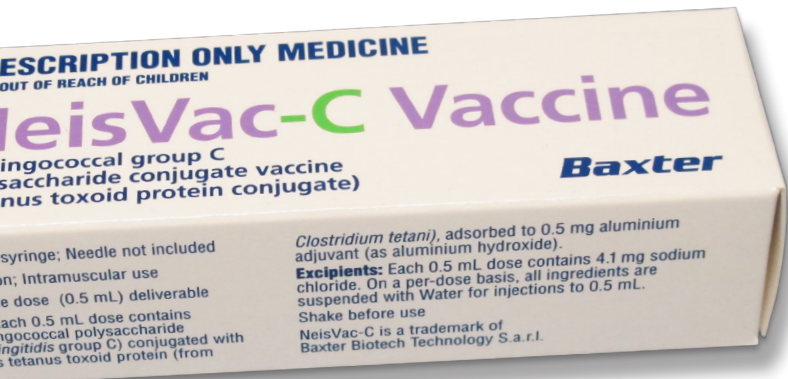
QML Dr. Code (if known): _____ RACGP QI&CPD/ACRRM No.: _____

HAVE YOU INCLUDED YOUR RACGP QI&CPD/ACRRM NUMBER?

PRACTICE INFORMATION

Practice Name / Address: _____

Practice Email Address: _____



Neisvac–C Meningococcal C Vaccine
QML Pathology would like to advise that we currently have stock of Neisvac–C manufactured by Baxter.

Price : \$71.00 (excl. GST)
To order contact QML Vaccine Customer Service
Phone: (07) 3121 4523
Fax: (07) 3121 4944
Email: Vacccustserv@qml.com.au



Warfarin Care Clinic Christmas Closures
QML Pathology wishes to advise that the Warfarin Care Clinic will not be accepting any NEW REGISTRATIONS as from 5pm Friday, 11th December 2015.
This service will re-open from 7am Monday 4th January 2016.
Patients who are currently monitored by QML Pathology and are being discharged from hospital will still be accepted during this time.

Doctors’ Noticeboard

Dr El-Bialy (MBBCh, MSc, MD, MRCOG, CCT, FRANZCOG)
Obstetrics and Gynaecology Specialist
Dr El-Bialy completed her specialist training in the United Kingdom, where she worked as a consultant. Upon moving to Australia, she worked as a Staff Specialist in NSW and obtained her fellowship. She is actively involved in teaching and training medical students, GPs and Obstetrics trainees. Her special interests include diabetes in pregnancy and high risk pregnancy, and the management of menstrual disorders, fibroids, abnormal pap smears, prolapse, menopausal problems, gynaecology of adolescents, and general gynaecological surgery. Dr Gehan El-Bialy’s consulting rooms are located at St Vincent’s Hospital Toowoomba
P: 0746885563 M: 0421112418 / F: 0746885178 / E: GehanEl-Bialy@svha.org.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 info@qml.com.au



Collection Centre Updates
For live updates on QML Pathology collection centre locations, opening hours, facilities and pathology tests, visit qml.com.au and click on ‘Collection Centres’ on the bottom of the page.
Alternatively, you can scan the QR code with your smart phone app.”



The easy way to order your pathology consumables online

- 1. Visit www.qml.com.au
- 2. Click on ‘I am a Doctor’
- 3. Click on ‘Collection Consumables’ to register

Simple, secure and fast online ordering via the QML Shopping Cart, with an automated confirmation of your order.

For further information contact (07) 3121 4508

Infectious Diseases Report

GEOGRAPHIC DISTRIBUTION - OCT 2015

ORGANISM	Regions (as per key below)															TOTAL			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	OCT	SEP	AUG	JUL
Adenovirus (not typed)	157	1	28	14				10		27	3	41	21	4	1	7	9	203	126
Adenovirus (typing pending)	16		1	2	2			2		3	2	2	1	1		0	39	21	7
Barmah Forest virus	1												1			0	4	1	12
Bordetella pertussis	1328	31	196	102	19	2		174		157	33	329	119	87	24	55	57	2019	147
Brucella species	3				1			1							1	2	7	2	1
Campylobacter jejuni																0	0	0	0
Chlamydia pneumoniae	2											2				0	0		1
Chlamydia trachomatis, not typed	860	70	118	52	16	8	4	132		60	21	216	76	27	34	26	28	779	841
Coxiella burnetii	10			2	4		1			1		1		1		1	9	11	9
Cryptococcus species	2												2			0	1	1	1
Cytomegalovirus (CMV)	50	2	9		4	1		4		4	1	15	7		2	1	0	42	61
Enterovirus - not typed																0	0	0	0
Entamoeba histolytica																0	0	1	0
Epstein-Barr virus (EBV)	173	6	34	11	4			20		14	5	37	29	5	3	5	5	147	152
Flavivirus unspecified	11		1		2							3	3		2	0	2	2	15
Hepatitis A virus	5	1	1							1		1				1	1	3	3
Hepatitis B virus	160	11	14	10	2			16		4	2	85	5	1	2	8	2	129	129
Hepatitis C virus	398	19	52	31	9			52		36	11	99	36	17	18	18	23	388	403
Hepatitis D virus																0	0	0	0
Hepatitis E virus																0	2	1	0
Herpes simplex Type 1	376	15	67	23	9	1		61		37	2	95	39	7	12	8	15	395	426
Herpes simplex Type 2	213	14	53	12	7			26		17	2	44	19	7	8	4	6	237	216
Herpes simplex virus - not typed																0	0	0	
HIV-1	21	2	1	1				3				12		2		0	14	11	6
HTLV-1	1										1					0	0		1
Human Metapneumovirus	254	3	30	16	7			34		43	12	49	37	7	12	4	19	357	134
Influenza A virus	189	3	26	13				42	1	26	10	32	22	2	4	8	46	1061	324
Influenza B virus	174	2	26	4	6			16		20	4	39	29	12	5	11	75	4034	1117
Legionella pneumophila (all serogroups)	3					2						1				0	4	12	9
Legionella species	2							1				1				1	6	22	14
Leptospira species	1											1				0	3	5	3
Measles virus																0	0	5	0
Mumps virus	4									1		2	1			0	0	2	2
Mycoplasma pneumoniae	400	10	61	29	11	2		50		45	20	107	35	9	10	11	17	410	1115
Neisseria gonorrhoeae	77	11	6	4		1		14	1	7	3	23	4		2	1	0	56	64
Parainfluenza virus	215	3	30	12	4	1		26		25	8	50	28	12	7	9	25	372	193
Parvovirus	12	1	2					1				2	5		1	0	12	18	12
Pneumocystis carinii	4		1							1		2				0	0	5	1
Respiratory Syncytial virus	59	4	11	4	1			8		5		10	11	1	4	4	243	274	357
Rhinovirus (all types)	428	2	60	18	5	1		53		55	32	86	69	12	16	19	20	653	496
Rickettsia - Spotted Fever Group	3	1										1	1			0	4	1	4
Ross River virus	116	6	14	9	5	1		16		5	7	16	19	6	6	6	4	65	70
Rubella virus	2										1	1				0	0	0	0
Salmonella paratyphi A																0	0	0	0
Salmonella paratyphi B																0	0	0	0
Salmonella typhi	1												1			0	3	3	2
Streptococcus Group A	161	15	15	5	3			11	73	8	2	13	9	4	1	2	3	188	168
Toxoplasma gondii	14		2	1				4		2		3				2	3	15	18
Treponema pallidum	237	41	14	10	4	9		62	2	15	5	37	10	5	20	3	7	190	232
Trichomonas vaginalis	53	22	1	3		1			3	3	5	5			10	1	35	33	33
Varicella Zoster virus	323	18	56	20	5	3		44		33	6	70	43	6	13	6	7	310	320
Yersinia enterocolitica																0	0	0	0
TOTAL	6519	314	930	408	130	33	5	883	80	655	198	1533	682	235	218	215	383	12446	7179

REGIONS:

1 Cairns

2 Gold Coast/Tweed

3 Ipswich

4 Mackay

5 Mount Isa

6 New England

7 North Brisbane

8 Northern Territory

9 Redcliffe

10 Rockhampton

11 South Brisbane

12 Sunshine Coast

13 Toowoomba

14 Townsville

15 Wide Bay/Burnett

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