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‘*Controversially, even the way we define BE and the associated cancer risk is being questioned.*’

Barrett Esophagus: An Update

DR DEBRA NORRIS

Firstly, how big an issue is Barrett Esophagus (BE)? BE affects 1.6% of the population, 9% of the elderly, and 10-12% of patients with Gastroesophageal Reflux disease. There is a possible genetic predisposition, and BE is more common in Anglo-Saxons. Risk factors include abdominal obesity, male gender (M:F ratio 4:1), and smoking; these factors being independent of reflux symptoms. The incidence of BE is increasing. Life time risk of adenocarcinoma is 5% in men, and 3% in women.

We tend to think of BE as a well-defined entity, with little new information nor controversy, and yet, this is not the case. The field of BE is evolving, in terms of definition, and particularly in regards to management, with new endoscopic detection and ablative techniques now available.

Controversially, even the way we define BE and the associated cancer risk is being questioned.

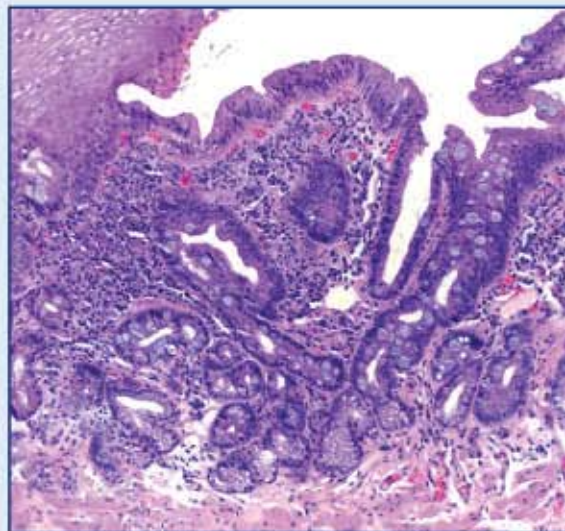
The pathogenesis of BE continues to be studied, with focus on molecular mechanisms. This may allow better targeted chemoprevention in the future.

Definition

In the USA and currently within Australia, BE is defined as **“displacement of squamocolumnar junction proximal to the gastroesophageal junction with histologic evidence of specialised intestinal metaplasia on biopsy specimens”**. However, the British Society of Gastroenterologists has a different definition **“endoscopically apparent area above the esophagogastric junction that is suggestive of Barrett esophagus (salmon coloured mucosa) which is supported by the finding of columnar lined esophagus on histology”**. According to this definition, there is no requirement for intestinal metaplasia. Support for the latter definition includes, intestinal metaplasia is not always detected and documentation is dependent on number of biopsies taken; cases of cancer arising in patients with BE in absence of intestinal metaplasia (with large study showing rate of development between the two groups not statistically different); molecular abnormalities present in nondysplastic BE mucosa.



Endoscopic appearance of Barrett Esophagus



Columnar epithelium showing intestinal metaplasia, currently required for the definition of BE

Whilst this appears semantic to those not intimately involved in the diagnosis, management and surveillance of BE patients, this poses a huge question, as to whether surveillance should be offered to those with columnar lined lower esophagus without intestinal metaplasia. This would lead to the clinical situation of more patients undergoing surveillance to find the now even lower incidence of malignancy (Kelty et al.; retrospective study of >700 patients; median follow-up 12 years; rate of development of adenocarcinoma 4.1% vs. 3.6% in the two BE groups, with and without specialised IM).

Pathogenesis

- **Bile reflux:** whilst acid reflux results in metaplastic change with replacement of normal squamous epithelium by columnar epithelium, the exact mechanism is controversial.
- **Genetics:** Epidemiologic data shows there is familial contribution to both GERD and BE.
- **Bile acids** – again role remains controversial.
- **H. pylori:** whilst postulated to be protective against GERD and BE by reducing gastric acid production, an extensive literature review on *H. pylori* (Maastricht II consensus report) states, eradication of *H. pylori* does not cause GERD.
- **Obesity:** Truncal obesity has a role in the evolution of GERD; also increasing evidence of adipokines in the pathogenesis of BE in obese individuals.
- **Molecular pathways:** BMP4 and CDX2: thought to have key role in pathogenesis of BE. BMP4 belongs to TGF beta family involved in controlling cellular differentiation. Proposed but speculative mechanism – proinflammatory factors such as acid and bile lead to upregulation of BMP4, which in turn activates stem cells, leading to columnar epithelium. If CDX2 activated, specialised columnar epithelium results.
- **Other:** genetic factors and chromosomal instability.

Diagnosis

Enhanced imaging techniques (narrow band imaging, chromoendoscopy) have allowed endoscopists to better characterise subtle premalignant lesions in the esophagus. These and other new imaging techniques will allow endoscopists to perform targeted biopsies, potentially increasing the yield of dysplasia detection.

Prevention

This has obviously been a hot topic in the past decade – how can we reduce the progression from BE to dysplasia and then carcinoma. Whilst successful in an animal model, and conflicting data in humans, COX2 inhibitors do not appear to have a strong chemopreventive effect. Data on PPIs as chemopreventive agents surprisingly are also controversial.

Treatment

Given the believed central role of acid reflux in development of BE, most strategies focus on acid blocking medicines or antireflux surgical procedures. Whilst retrospective, observational data suggest this to be true, there are no prospective trials.

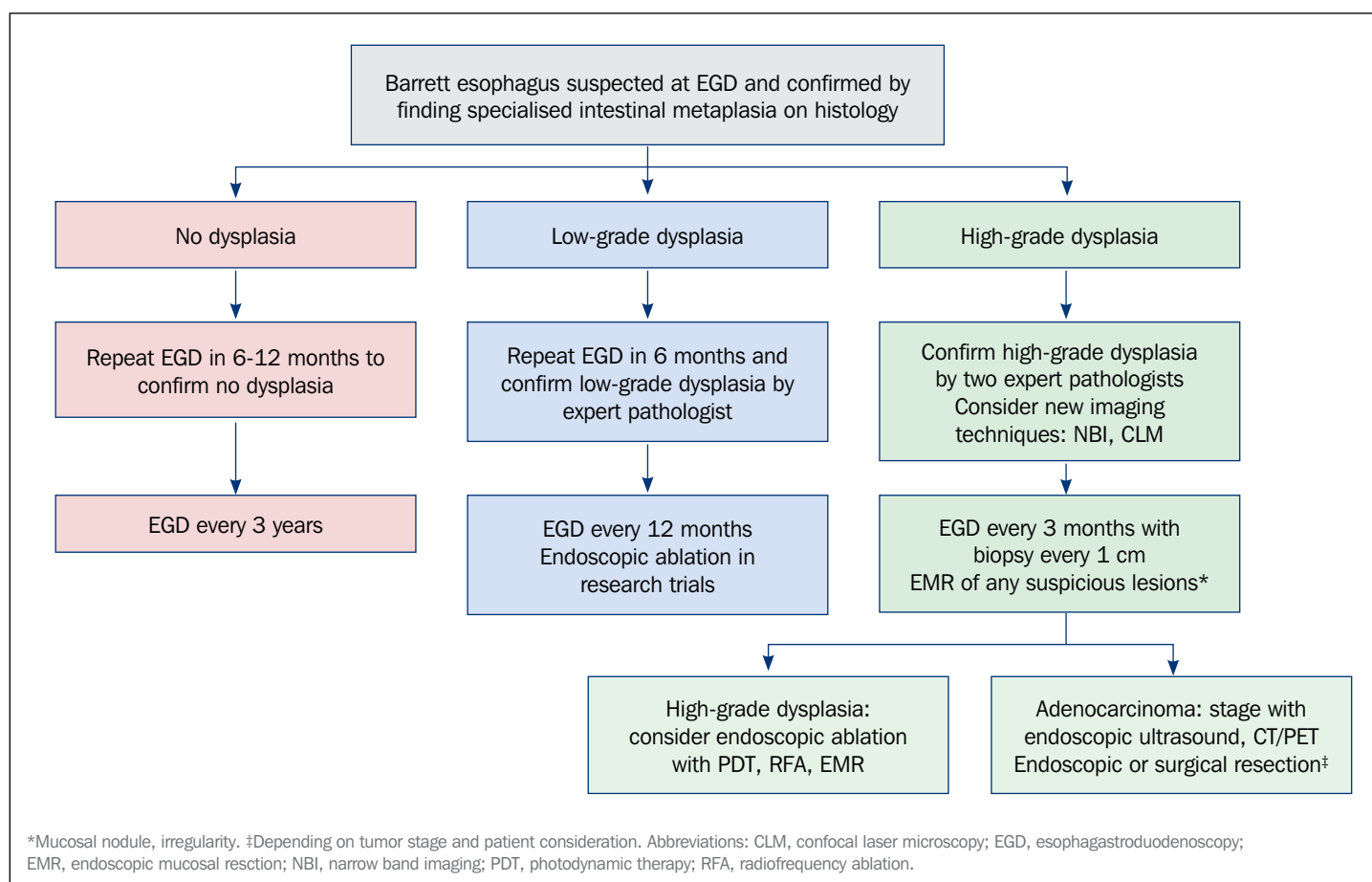
Multiple endoscopic techniques aimed at ablating the BE have been developed including thermal techniques (such as laser and radiofrequency ablation) and nonthermal techniques (such as photodynamic therapy, endoscopic mucosal resection and cryotherapy). These techniques are becoming increasingly utilised, given their low complication rate and high eradication rate.

Included is one suggested algorithm for management of patients with BE at the current time.

Conclusion

Further questions remain at the molecular pathogenesis level as well as management and prevention levels. Key questions are: diagnostic strategies; can a safe and effective chemoprevention agent be developed; which populations benefit most from ablative therapy.

FIGURE 1: ALGORITHM FOR THE MANAGEMENT OF PATIENTS WITH BARRETT ESOPHAGUS



Badreddine RJ, Wang KK. *Nat. Rev. Gastroenterol. Hepatol* 7, 369-378 (2010)

SELECTED REFERENCES:

- Badreddine RJ, Wang KK. Barrett Esophagus: an update. *Nat. Rev. Gastroenterol. Hepatol.*; 2010; 7:369-378.
- Kely CJ et al. Barrett’s oesophagus: intestinal metaplasia is not essential for cancer risk. *Scand. J. Gastroenterol*; 2007; 42; 1271-1274.
- Malfertheiner, P et al. Current concepts in the management of Helicobacter pylori infection: Maastricht III consensus Report. *Gut*; 2007; 56:772-781.
- Riddell RH, Odze RD. Definition of Barrett’s Esophagus: time for rethink – is intestinal metaplasia dead? *The American Journal of Gastroenterology*; 2009; 104:2588-2594.

Pathologist Profile



Dr Debra Norris FRCPA

MEDICAL DIRECTOR AND PATHOLOGIST IN CHARGE: HISTOLOGY

Graduating from the University of Queensland (MBBS Hons) (1984), Dr Norris trained in histopathology at the Mater and Princess Alexandra Hospitals, before obtaining a fellowship in pathology in 1994. She then took up a position as Staff Histopathologist at the Mater Hospital before joining QML Pathology in October 2002 as a Consultant Histopathologist at the Central Laboratory. In 1997, Dr Norris undertook a fellowship in haematopathology with world renowned authority Dr Nancy Harris at Massachusetts General Hospital.

Dr Norris areas of expertise are particularly in lymphoma (both nodal and extranodal including cutaneous), gastrointestinal pathology and dermatopathology. In these areas, she lectures widely and receives consultations.

Phone: (07) 3121 4429

Email: Debbie.Norris@qml.com.au

HPV DNA testing for High-risk HPV types

DR BRYAN KNIGHT MBChB; M Med (Anat Path); PhD; FIAC

PATHOLOGIST IN CHARGE: CYTOLOGY

The HPV DNA Test of Cure is offered by QML Pathology. The cost of this test is covered by Medicare* for women after treatment for a high-grade cervical intra-epithelial lesion (HSIL). Carcinoma of the cervix has been shown to be induced by one of 13 'high-risk' HPV types in more than 99% of cases. After treatment of a high-grade intra-epithelial lesion, testing for persistent high-risk HPV DNA in cells from the endocervix is a reliable means of predicting women at risk of recurrence of HSIL. Accordingly, HPV DNA testing is recommended under the National Health and Medical Council (NHMRC) Guidelines for the Management of Asymptomatic Women with Screening Detected Abnormalities. Queensland Health has developed a Policy and Procedure for HPV DNA 'Test of Cure'.

During the first 12 months after treatment for HSIL, there is a high incidence of HPV positive tests despite treatment. However, the rate of a positive high-risk HPV DNA test reduces significantly after 12 months. Therefore, it is recommended that HPV testing should not be performed before 12 months have elapsed after treatment of the HSIL lesion. The recommendation is that the test should be repeated at 12 month intervals until two consecutive annual Pap tests and HPV tests are negative. Thereafter, the patient can return to the usual two yearly screening interval. Testing for HPV DNA at QML Pathology can only be funded by Medicare if these recommendations are followed.

HPV DNA testing is performed using the Hybrid Capture technique using a suspension of cervical epithelial cells in a liquid preservative. A sample submitted for liquid-based cytology (BD SurePath™ or ThinPrep) is suitable for HPV DNA testing. By arrangement with the submitting physician, QML Pathology will send liquid-based samples for HPV DNA testing from women who have been treated for HSIL 12 months prior to submission of the sample. It is important to note that Pap smears processed using liquid-based cytology technology are not fully funded by Medicare. Therefore, specimens submitted expressly for HPV DNA testing should be marked clearly as not being sent for routine cytology.

Dr Bryan Knight, Pathologist in Charge: Cytology

Phone: (07) 3121 4607

Email: Bryan.Knight@qml.com.au

*Eligible Medicare cardholders

Anti Mullerian Hormone (AMH)

AMH is now available locally through our pathology network, ensuring a faster turnaround time and reduced test price for patients.

AMH is made by pre-antral and antral (early) follicles within the ovary and AMH levels may be helpful in the following settings:

- Assessment of ovarian reserve
- Polycystic ovarian syndrome (PCOS)
- Pre-fertility treatment.

This test does not currently attract a Medicare rebate and patients will incur an out-of-pocket charge of \$60.00.



For further information, please contact Dr Kerry DeVoss, Endocrinologist on (07) 3121 4412.
For patient information brochures, please contact Marketing on (07) 3121 4506.



Vaccines

Whether it is childhood immunisation or overseas travel, QML Pathology is able to assist patients and doctors to obtain the necessary vaccines, delivered direct to their local surgery.

- Highly competitive prices
- Integrated cold chain network ensuring integrity and quality of vaccines
- Next day delivery (excluding orders placed on Fridays, weekends and public holidays)
- Wide range of vaccines, including those recommended for travel as well as specialised vaccines, such as Q fever.

Also available for purchase are multi-drug tests cups and chain of custody kits.

Vaccines can be ordered by emailing VaccCustServ@qml.com.au, calling (07) 3121 4523 or by completing the online form at www.qml.com.au.



Path-Way™ Mobile

Path-Way is now available as a free downloadable app for the iPhone and iPad from the iTunes store.

Go to www.apple.com.au/itunes/
> Enter 'Path-Way' into store search bar.



App
Available Now

QML Pathology.
Specialists in Private Pathology since the 1920s

Pathology results always available, in real-time, anywhere.

Date Claimer - Ipswich Workshop



female facts

You are invited to attend 'Female Facts'
 – a case-based session on vulval disorders, cervical cancer and abnormal cytology.

SPEAKERS:

Dr Sophia Elmes, Obstetrician & Gynaecologist
 Dr Rachel Green, Obstetrician & Gynaecologist
 Dr Piksi Singh, Gynaecological Oncologist

WHEN:

6.00pm for 6.30pm, Tuesday, 18 October 2011

LOCATION:

The Ipswich Club, 14 Gray Street, Ipswich



Increased Target for PIP Cervical Screening Incentive

From 1 August 2011, only practices reaching the new cervical screening target of 65% will be eligible for the PIP Cervical Screening Incentive outcomes payment. The outcomes payment will be made to practices when at least 65% of female patients between the ages of 20 and 69 years have been screened in a 30 month reference period.

The change applies to the PIP Cervical Screening Incentive outcomes payment only. No changes will be made to the sign-on or Service Incentive Payment (SIP). For more information, visit the Medicare Australia website.



Surgical Skin Audit Update

QML Pathology has been approved by ACRRM for 30 PRDP Points. For further information regarding procedural grant allocation, please contact <http://www.acrrm.org.au/rural-procedural-grants-program> or QML Pathology jo.wilsonfarr@qml.com.au.



New Resources Available to Order



SKIN PACK

This pack includes the following:

- Skin Cancer Awareness - Patient Information Brochure
- Skin Biopsies: A Quick Reference Guide
- Skin Biopsy for Direct Immunofluorescence Microscopy
- Benign Melanocytic Proliferations and Naevi
- Dysplastic Naevus
- Clinical Practice Guidelines: Management BCC & SCC
- Dermatoses in Everyday Practice.



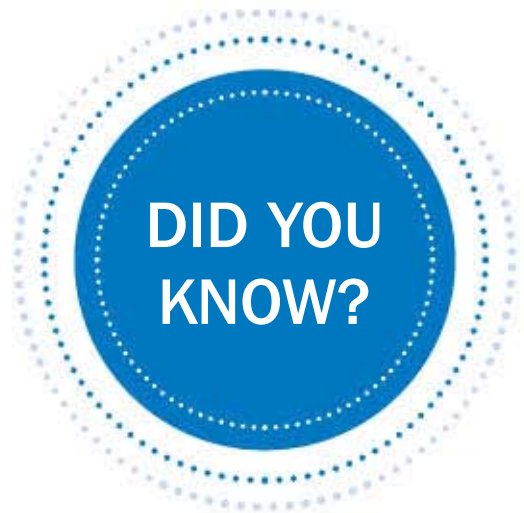
VITAMIN D DEFICIENCY INFORMATION

- Patient information brochure
- Doctor reference sheet
- Summary sheet for doctor's surgery



VITAMIN B12 DEFICIENCY INFORMATION

- Patient information brochure
- Doctor reference sheet
- Summary sheet for doctor's surgery



The QML Pathology Cytology Screening training programme has been in place since 1995. During these 16 years, QML Pathology has successfully trained 47 graduate scientists to screen gynaecologic specimens (Pap smears) and non-gynaecologic specimens. The programme prepares the graduate scientists for examinations for the National Cytology examinations of the Australian Society of Cytology. The programme also assists in the teaching of pathologists in training for the Royal College of Pathology examinations.

It takes approximately six to eight months to fully train a candidate to screen Pap smears. Most cyto-scientists spend 2 years learning to report non-gynaecologic specimens, which include cerebro-spinal fluid, urine, sputum samples, pericardial, pleural and peritoneal fluids, bronchial washings and brushings, and Fine Needle Aspirates (FNA) from numerous body sites. The training involves a series of lectures delivered by both cytoscientists and pathologists, numerous multi-header microscope sessions, written assignments, reporting of selected teaching slide-sets and hours of supervised screening. Supervision is provided by group of senior scientists.

After two years, the trainees are eligible to sit for the Australian Society of Cytology certificate - a national examination which tests competence in all aspects of cytology screening in Australia. In 4 of the last 10 years, a QML Pathology candidate has gained the highest mark in this exam, and several of our candidates have passed with distinction.

QML Pathology's Diabetes Care Clinic

HOW THE DIABETES CARE CLINIC WORKS

- The Diabetes Care Clinic is run by Credentialed Diabetes Educators based at a number of conveniently located QML Pathology collection centres.
- The Diabetes Educators will work with the referring GP to develop a comprehensive management plan for each patient.
- Once the patient is enrolled in the Diabetes Care Clinic, the patient will be contacted by our Diabetes Care Clinic team and an appointment will be made for an education session.
- The Clinic will include:
 - ✓ A mixture of individual and group education sessions with a Credentialed Diabetes Educator
 - ✓ Organisation of appointments with appropriate allied health professionals, such as dietitians, exercise physiologists and podiatrists.

Introducing the Diabetes Care Clinic

BENEFITS FOR THE PATIENT

By attending the Diabetes Care Clinic, patients will be provided with the necessary skills and practices required to better manage their diabetes, including:

- Understanding how diabetes works
- Monitoring blood glucose levels at home and using the results to self manage their diabetes
- Understanding the importance of healthy eating and physical activity when managing diabetes
- Using diabetes tablets and insulin safely and effectively
- A 100% bulk billed service (subject to Medicare eligibility and guidelines).

BENEFITS FOR THE GP

- The QML Pathology Diabetes Care Clinic endeavours to develop a partnership with the GPs, nurses and medical centres managing patients with diabetes. Our Diabetes Educators will provide a team-based approach by working in conjunction with dietitians, exercise physiologists and podiatrists to ensure that we can provide the best possible care and outcome for your patients with diabetes.
- Each patient's GP will continue to oversee their diabetes management plan, with QML Pathology providing reports informing you of your patient's progress.
- The Diabetes Care Clinic will provide you with all of the relevant Medicare paperwork for you to submit in order to claim the practice incentives for diabetes management.

AVAILABLE GP REBATES PER PATIENT WITH DIABETES

Name	Item No.	Medicare Fee (100%) Nov 2010*	Minimum Claiming Period
Preparation of a General Practice Management Plan (GPMP)	721	\$136.05	12 months
Preparation of team care arrangements (TCAs)	723	\$107.80	12 months
Contribution to a multidisciplinary care plan, or to a review of a multidisciplinary care plan, for a patient who is not a care recipient in a residential aged care facility	729	\$66.35	3 months
Contribution to a multidisciplinary care plan, or to a review of a multidisciplinary care plan, for a resident in an aged care facility	731	\$66.35	3 months
Review of a GPMP or coordination of a review of TCAs	732	\$68.00	3 months

(Item no. for ATSI assessment: 715)

*Prices are correct at time of printing and are subject to change.

To enrol your patient or for further information, please contact Samantha Rowe, Diabetes Care Clinic Coordinator, on phone (07) 5441 0200 or email samantha.rowe@qml.com.au.



Collection Centre Updates

NEW COLLECTION CENTRES

ACACIA RIDGE(07) 3277 2202
Acacia Marketplace Shopping Centre
1136 – 1150 Beaudesert Rd

ASPLEY.....(07) 3863 4471
Aspley Hypermarket Shopping Centre
Shop 64 – 68, 59 Albany Creek Rd

BALD HILLS.....(07) 3261 2468
2202B Gympie Rd

BRISBANE.....(07) 3368 1272
Shop 16, Cinemas Building
5-61 Petrie Tce

CARRARA.....(07) 5579 8077
10/3027 The Boulevard
Emerald Lakes Town Centre

COORPAROO(07) 3324 1779
358 Old Cleveland Rd

EIGHT MILE PLAINS.....(07) 3219 0420
Warrigal Square Shopping Centre
Cnr Warrigal and Underwood Rds

FAIRFIELD(07) 3844 4816
Shop 22, Terry White Chemists
Fairfield Gardens Shopping Centre
180 Fairfield Rd

FERNY GROVE(07) 3851 3035
Shop 11-13, Coles Shopping Centre
McGinn Rd

GLADSTONE(07) 4978 6650
Shop 2, Clinton Plaza
6 Ballantine St

GOONELLABAH(02) 6625 2640
Shop 3, 33-35 Rous Rd

**GRACEMERE
(CENTRAL QLD)**(07) 4933 1958
Shop 6, Gracemere Plaza
Cnr Russell & Lawrie Sts

INDOOROOPILLY(07) 3720 2675
Level 1, 80 Stamford Rd

KELVIN GROVE(07) 3831 7060
Shop 4, The Village Centre
39 Musk Ave

KEPERRA(07) 3855 9563
14 Dallas Pde

MAROOCHYDORE(07) 5451 0867
Maroochydore Diagnostic Centre
150 Horton Pde

MCDOWALL.....(07) 3353 0600
Shop 7B, McDowall Shopping Centre
109 Beckett Rd (Cnr Hamilton Rd)

MONTO.....(07) 4166 1166
16 Bell St

MOURA.....(07) 4997 3033
1 Minogue St

MURWILLUMBAH(02) 6672 4824
3/12 Queen St

NORTH MACLEAN(07) 3802 0194
Olleys Orange Shopping Village, Shop 2
4656 - 4664 Mt Lindsay Hwy

NORTH WARD.....(07) 4772 3386
57 Mitchell St

RUNAWAY BAY(07) 5537 5486
Shop 44, Terry White Chemists
Runaway Bay Shopping Centre
10-12 Lae Dr (Cnr Bayview St)

SLADE POINT(07) 4955 4192
1 Finch St

STRATHPINE.....(07) 3205 3181
357 Gympie Rd

TANNUM SANDS(07) 4972 2877
Shop T3
Tannum Central Shopping Centre
101 Hampton Dve

TARANGANBA(07) 4939 3496
Shop 1B
Cedar Park Shopping Centre
Swordfish Ave

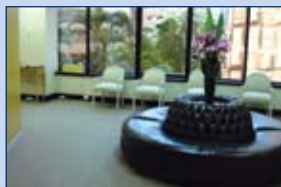
TOOWOOMBA(07) 4638 9149
University of Southern Queensland
G - 219 West St

TWEED HEADS(07) 5536 2266
Terry White Chemists
Tweed Centro, Wharf St

If you would prefer to receive the newsletter via email rather than hard copy, please send your details to info@qml.com.au or phone (07) 3121 4506.

Doctor's Noticeboard

The Doctor's Noticeboard is a free service for practitioners to advise changes to their practice. If you would like to place a notice, please email details to info@qml.com.au.



MAGNIFICENT DOCTOR'S CONSULTING ROOM FOR LEASE

A well-known Orthopaedic Specialist wishes to offer a vacant consulting room for lease to a like-minded professional. The beautifully fully-furnished IT-equipped rooms cover an area of some 262m² consisting of two separate consulting and examination rooms, a research library, kitchen and large waiting room and office area.

The rooms will offer you the chance to work in a professional, friendly and productive environment with efficient staff to support all of your needs. The location will assist in enhancing your corporate image and improve your day-to-day business processes. While an Orthopaedic Specialist would be ideal, any other specialty would be most welcome.

Address: 1st Floor, BMM Place
135 Wickham Terrace, Brisbane

Availability: Four days per week

Parking: Lease includes private car park in the basement

Phone: (07) 3839 5130

DR FREDERIKSEN, Orthopaedic Surgeon, specialises in surgery of the shoulder, elbow, wrist and hand including microvascular and peripheral nerve surgery. He has special interest in arthroplasty in the upper limb, as well as the management of complex wrist and hand trauma.

Dr Frederiksen maintains public practice at QEII Hospital and is active in the management of patients across the Metro South Health Service District. He maintains rooms at St Andrew's Place, Spring Hill and consults also at Sunnybank Private Hospital.

Address: Suite 278, Grnd Floor, St Andrew's Place
33 North Street, Spring Hill

Phone/Fax: (07) 3832 3203



DR ANDREW ANSARI, Obstetrician & Gynaecologist, has recently commenced at City Fertility Centre, Sunnybank.

Andrew has had extensive experience in all areas of obstetrics and gynaecology including high risk obstetrics. He provides antenatal and post natal care in his rooms and intrapartum care at Sunnybank Private Hospital.

Dr Ansari is able to provide general gynaecology services with a minimally invasive approach. He has a particular interest in the laparoscopic management of endometriosis and fertility treatment, including IVF. In addition, Dr Ansari has a special interest in pelvic floor and continence surgery.

Address: Suite 213a Times Square
250 McCullough Street, Sunnybank
The Hub Complex, 2 Rickey Street, Capalaba

Phone: (07) 3423 8916

Email: doctor.andrew@bigpond.com

Web: www.cityfertility.com.au



DR PIKSI SINGH, Gynaecological Oncologist is based at the Kuraby Specialist Centre, 10 Strathmore Street, Kuraby.

Dr Piksi Singh specialises in the management of all known and suspected cancers of the female genital tract, colposcopy and pre-invasive conditions of cervix, vagina and vulva. She has a keen interest in managing women with hereditary familial gynaecological cancers, gestational trophoblastic disease (GTD) and vulval reconstructive surgeries. She is trained to perform complex minimally invasive surgery, including laparoscopic and robotic procedures.

Dr Singh also has consultation rooms at the North West Private Hospital and operating sessions both at the Mater Mothers' and North West Private Hospitals.

Phone: (07) 3219 9521



GP REQUIRED - SUNSHINE COAST

GP required for well-established family practice at Moffat Beach. Close to beach and cafes. DWS available. Friendly environment with nurse support. Fully computerised, accredited, well-equipped practice. No after hours.

Phone: (07) 5438 2333

Email: practicemanager@moffatbeachmedical.com.au

Infectious Diseases Report

GEOGRAPHIC DISTRIBUTION - JULY 2011

ORGANISM	Regions (as per key below)															TOTAL			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	JUL	JUN	MAY	APR
Adenovirus (not typed)		11	8		1	1	19		10	3	15	7	3	4	1	83	70	56	39
Adenovirus (typing pending)		3	4					2	5	4	1			1		20	17	11	9
Barmah Forest virus		2	2	2				5	2	1	3	3	1	4		25	18	13	21
Bordetella pertussis	11	26	30	6			37		32	12	67	23	37	7	4	292	299	249	204
Brucella species		1									1	1		1		4	4	3	6
Campylobacter jejuni																0	1	0	0
Chlamydia pneumoniae																0	0	0	0
Chlamydia trachomatis, not typed	70	124	33	29	1	1	104		68	48	138	44	19	47	10	736	744	805	625
Coxiella burnetii			1										2			3	4	7	10
Cryptococcus species												3				3	3	3	1
Cytomegalovirus (CMV)		7	5				12		8	5	16	4	4	2		63	57	56	41
Entamoeba histolytica																0	0	0	0
Enterovirus - not typed											1					1	0	0	1
Epstein-Barr virus (EBV)	5	12	5				11		6	2	28	8	3	4	6	90	102	117	96
Flavivirus unspecified	3	2							1			2				8	6	5	7
Hepatitis A virus		1							1		2					4	2	3	0
Hepatitis B virus	4	8	5				9		7	2	41	1	1	1		79	77	110	64
Hepatitis C virus	8	51	19	7		1	34		20	6	65	18	4	6	6	245	276	276	260
Hepatitis D virus																0	0	0	0
Hepatitis E virus																0	0	0	0
Herpes simplex Type 1	17	56	15	3	1	1	50		40	6	56	24	8	6	4	287	253	264	226
Herpes simplex Type 2	13	39	4	4			20		17	6	31	22	2	9	2	169	176	171	156
Herpes simplex virus - not typed																0	0	0	0
HIV-1					2		1				1	1	1			6	10	9	13
HTLV-1																0	1	0	0
Influenza A virus	7	130	60	1		10	113		84	15	193	67	61	19	5	765	286	84	67
Influenza B virus	1	21	25			1	54		31	2	68	13	10	2	1	229	90	9	8
Legionella pneumophila (all serogroups)			1								1					2	0	0	1
Legionella species			1								1				1	3	1	2	6
Leptospira species													1			1	5	5	8
Measles virus																0	0	1	2
Mumps virus		1		1												2	1	1	0
Mycoplasma pneumoniae		2	3		2		3		2	1	6	3	2	1	1	26	49	46	26
Neisseria gonorrhoeae	8	6	1	1			5		2		9	2	1	3	1	39	36	48	42
Parainfluenza virus Type 1		2									1					3	4	7	6
Parainfluenza virus Type 2				1							1					2	3	4	3
Parainfluenza virus Type 3		9	4				1		1		9		2			26	16	3	11
Parovirus	2	1					8		3		9	1				24	19	4	9
Pneumocystis carinii																0	1	2	0
Respiratory Syncytial virus	1	18	10			5	10		5	7	20	10	7		2	95	84	84	112
Rickettsia - Spotted Fever Group									1							1	1	12	10
Ross River virus	1								5	1		3	2			12	22	48	63
Rubella virus																0	1	0	2
Salmonella paratyphi A																0	0	0	0
Salmonella paratyphi B																0	0	0	0
Salmonella typhi																0	1	1	0
Shigella dysenteriae																0	0	0	0
Shigella flexneri																0	0	0	0
Streptococcus Group A	7	11	3	1	1		6	1	7	5	13	4	1	2	4	66	66	79	46
Toxoplasma gondii											1					1	1	1	2
Treponema pallidum	15	11	6		3		17		5	2	23	4	6	10	2	104	84	132	101
Trichomonas vaginalis	5						1	3			1			6		16	20	21	18
Varicella Zoster virus	11	35	9	3	2		34		25	2	67	13	2	5	4	212	189	173	176
Yersinia enterocolitica																0	0	0	0
TOTAL	189	590	254	59	13	20	549	4	388	132	890	282	182	137	58	3747	3100	2925	2498

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

JUNE 2011 AND FURTHER HISTORICAL CLINICAL DATA CAN BE OBTAINED BY CONTACTING YOUR LOCAL MEDICAL LIAISON OFFICER.

