

Health Matters

Gastro-Oesophageal Reflux Disease

Dr Chris Cederwall



Bowen Hospital

Area: Gastroenterology
Article written by: Dr Chris Cederwall,
Gastroenterologist, ph (04) 479 8261

Treatment of Refractory Gastro-Oesophageal Reflux Disease

Gastro-Oesophageal reflux disease (GORD) is a common condition where reflux of gastric content can lead to troublesome symptoms and complications. This is commonly treated with lifestyle modification or empiric acid suppressant drugs such as Proton Pump Inhibitors (PPI) or H2-Receptor antagonists (H2RA). When patients experience symptoms refractory to these initial measures further action is required.



Confirming appropriate use of Proton Pump Inhibitors

When assessing response to PPI therapy it is important to confirm medication compliance and whether the medication is being taken in the appropriate fashion. PPIs accumulate in the secretory canaliculus of the parietal cell and irreversibly inhibit

the H-K-ATPase pump, resulting in long-lasting impairment of gastric acid secretion. PPIs are most effective when the concentration of H-K-ATPase in the parietal cells is highest, which is after a prolonged fast (before breakfast). Only activated H-K-ATPase can be inhibited and activation is stimulated by food intake.

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Message from Acurity Health

Message from Acurity Health Group Board of Directors



We are entering an exciting phase at Acurity Health Group with a significant number of projects and development work underway. In progress is the \$100m major redevelopment of Wakefield Hospital with 12 of the existing 16 buildings to be demolished and rebuilt in stages to allow the hospital to continue functioning during development.

Resource Consent has been lodged for a \$16m expansion of Royston Hospital that will feature new operating theatres, an expanded post-anaesthesia care unit, day surgery admission and discharge facilities, and a redesigned reception area.

The Bowen Icon Cancer Centre, developed via a partnership between Acurity Health Group and specialist cancer care provider Icon

Group, opened in July 2017. Currently delivering private day oncology services, the addition of radiation oncology will offer patients the full spectrum of cancer care under one roof. Subject to approval of the Resource Consent application, two radiotherapy bunkers and associated clinical space will be built during 2018.



We are also investing in Acurity information and services with the implementation of, for example, a new rostering and payroll system; clinical care strategies including bedside handover, patient communication boards and safety checks; an Integrated Management Information System; and an electronic patient discharge summary to the referring GP. During 2018, we will also be developing an electronic admission process to reduce the time and paper-work involved in our administrative process.

Coming up on 25th and 26th May at Te Papa is our annual Acurity GP Conference, Connect 2018. This is the 20th year Acurity has presented this conference and it continues to attract

attendance from a large following of GPs throughout New Zealand.

Alongside our clinical presenters, iconic New Zealand entertainer Mike King, better known these days for his work as a prominent mental health educator, will provide an insightful and enlightening look into the serious business of depression with practical tools to help those who may be having problems. The variety and quality of guest speakers this year and the emphasis on clear take home messages relevant to primary healthcare will ensure you gain maximum educational value from attending. We hope you can join us.

Enjoy our latest *Health Matters* edition.

**From the Board of Directors,
Acurity Health Group Limited**

Connect 2018

**Early Bird
closes 31st March**



GUT HEALTH



CLINICAL DILEMMAS



PAIN MANAGEMENT
& MUSCULOSKELETAL
CONDITIONS



ONCOLOGY UPDATE



END OF LIFE CARE

25 & 26 May 2018, Te Papa, Wellington

If you are thinking about attending the Acurity GP Conference Connect 2018, register now to qualify for early bird pricing and be in to win back your fee.

Join us to discover the latest clinical updates in primary and secondary healthcare. The emphasis is on clear take home messages relevant to primary healthcare.

Register at www.acurity.co.nz/connect

Gastro-Oesophageal Reflux Disease

Continued from page 1

Dr Chris Cederwall



Patients should therefore take their PPI at least 30 minutes before breakfast to ensure an adequate concentration of the drug in the parietal cells before the H-K-ATPase is activated. The same approach can be used for symptoms occurring in the evening, as the effect lasts for longer than 24 hours. Not all parietal cells are activated during a meal and not all H-K-ATPase is blocked after one dose of PPI. After 5 days of taking a PPI once a day, the maximal acid output is inhibited by about 66%¹.

Lifestyle modification

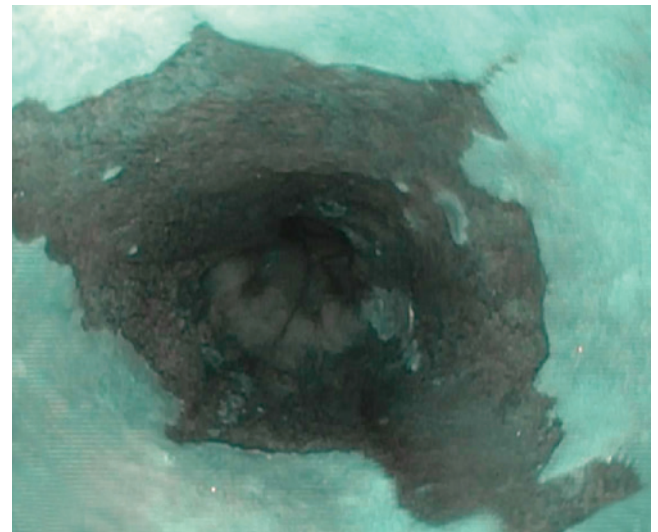
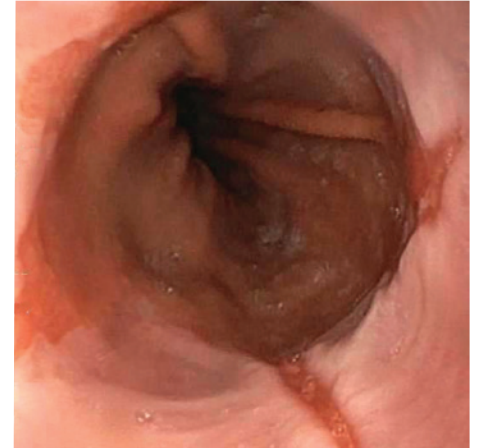
- Weight loss
- Reduction in fatty and spicy meals, caffeine/coffee, orange juice, chocolate
- Increased liquid consumed with meals to aid gastric emptying
- Avoid eating late in the evening
- Elevated head of bed at night
- Vegetarian diet (apparently as effective as PPI therapy).



Investigation is generally indicated in patients with reflux and:

- Warning signs (dysphagia, iron deficiency, abdominal mass, N&V, GI bleeding)²
- Atypical symptoms eg (cough, chest pain, lung disease, pharyngitis/dental erosion)
- Lack of response to pharmacological therapy
- Prior to considering anti-reflux surgery.

Figure ①: Endoscopic features of Gastro-Oesophageal Reflux (right) and Barrett's Oesophagus (below)



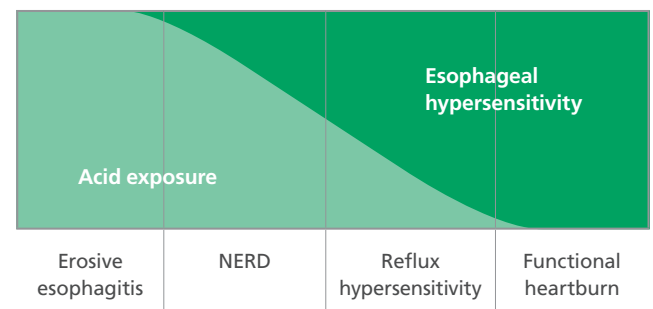
Upper GI endoscopy

Upper GI endoscopy is generally the initial investigation in suspected reflux disease. Endoscopy can confirm the diagnosis of GORD with the presence of erosive reflux changes and Barrett's Oesophagus, but can also exclude GORD related complications such as strictures and oesophageal cancer. Upper GI endoscopy also assesses for anatomical changes, such as a hiatus hernia, which predispose to developing reflux disease.

Physiological testing

In the setting of a normal upper GI endoscopy, **ambulatory testing** can be used to confirm or exclude GORD. This is performed using either a Wireless pH probe (pH only) or an Impedance-pH catheter, which measures both pH and fluid movement across the oesophagus. Impedance-pH testing measures the frequency and acidity of reflux events and their correlation to any recorded symptoms. This test has the added benefit of detecting both acid and non-acid reflux. Testing can be performed off treatment as a rule out test in patients with a low suspicion GORD, or on treatment in patients with confirmed reflux on endoscopy, but persisting symptoms despite medication³. It is important to note there can be an overlap between confirmed GORD and functional oesophageal disease, such as reflux hypersensitivity and functional heartburn⁵. Therefore persisting reflux symptoms on treatment can be due to either refractory GORD or functional disease (which is less likely to respond to further acid suppression or anti-reflux surgery).

Figure ②: Spectrum from Pathological reflux to Functional oesophageal disease⁵

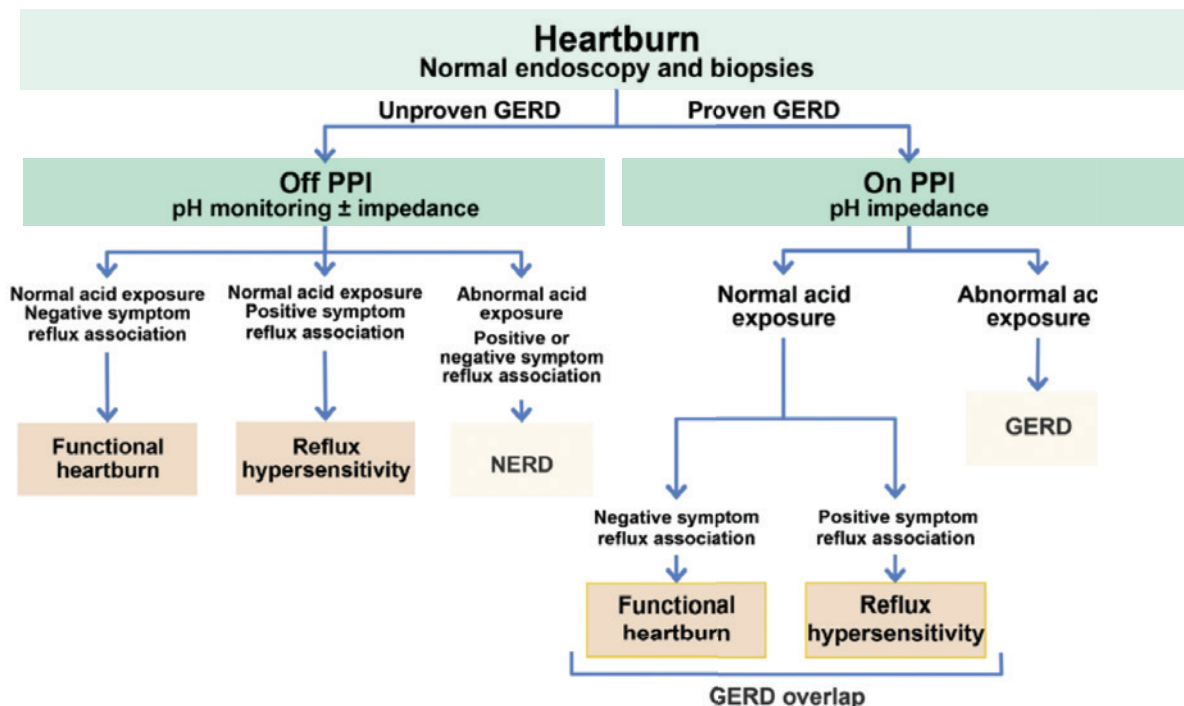


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Gastro-Oesophageal Reflux Disease

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Figure ③: Ambulatory Impedance-pH testing for investigation of GORD⁵



Oesophageal manometry

is often performed as an adjunct to Impedance-pH testing as it locates the gastro-oesophageal junction for accurate probe placement, can identify the presence of a hiatus hernia, and assesses the strength of oesophageal body peristalsis prior to considering anti-reflux surgery. Occasionally patients with GORD-type symptoms unresponsive to empiric acid suppression are found on



manometry to have underlying oesophageal dysmotility. If identified, conditions such as oesophageal spasm, Hypercontractile Oesophagus and Achalasia can be targeted with specific pharmacological, endoscopic or surgical therapy.

Management of refractory GORD

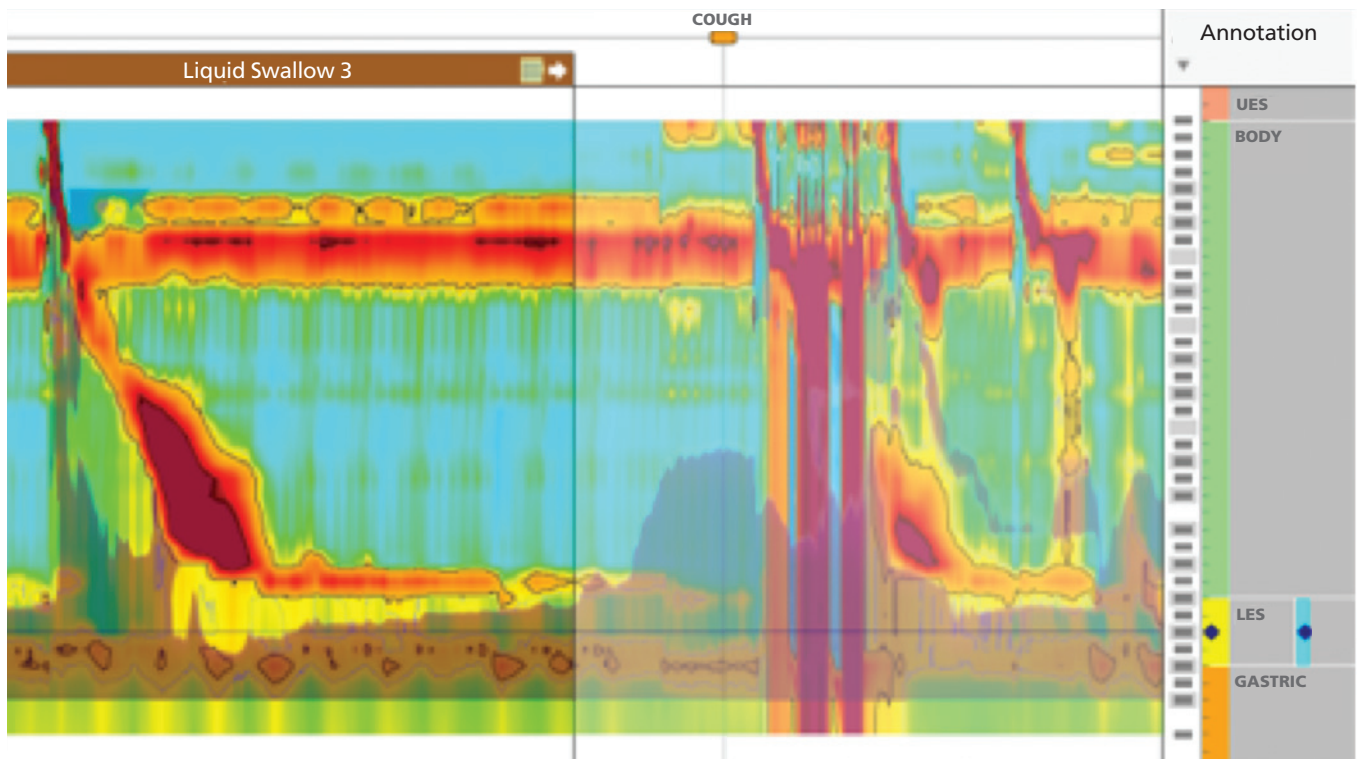
When assessing patients with refractory reflux, treating physicians **should confirm appropriate use of PPI** therapy: up to twice daily taken 30-60 minutes prior to meals. If symptoms are not controlled with a particular Proton Pump Inhibitor,

a switch to a different PPI may recapture control¹. Adding an H2RA such as Ranitidine prior to bed can reduce breakthrough nocturnal acid secretion, but if taken at the same time as the PPI it reduces the PPI's effectiveness. Domperidone as a prokinetic prior to meals accelerates gastric emptying and reduces volume reflux, particularly in patients not appropriate for anti-reflux surgery⁴. Surgical options such as hiatus hernia repair and fundoplication surgery are available for patients

with symptoms refractory to pharmacological therapy or those who do not wish to take medication long-term. Surgery is effective, though symptoms may recur and it is not without complications. There are emerging therapies not yet routinely available in New Zealand, such as the Linx procedure where a ring of small magnets is surgically implanted around the lower oesophagus to prevent GI reflux. Research is ongoing into lower oesophageal sphincter stimulation and endoscopic suturing.



Figure ④: High Resolution Oesophageal Manometry demonstrating hiatus hernia, transient LES relaxation and reflux triggering cough



In patients with symptoms that are likely functional in origin, PPI therapy is a reasonable initial approach and can be continued if beneficial. Tricyclic anti-depressants such as Nortriptyline or Amitriptyline are the preferred pharmacological treatment for severe functional heartburn or reflux hypersensitivity, though SSRIs and SNRIs also have evidence in patients intolerant of TCA⁵. There are also non-pharmacological options in the treatment of functional oesophageal disease such as exercise, stress reduction,

cognitive behavioural therapy and hypnotherapy, and these can also be used in combination with medication. This patient group can often be challenging to treat and complete resolution of symptoms is not always possible⁵.

References

- 1 Pouw & Bredenoord. "Mistakes in the use of PPIs and how to avoid them." *UEG Education* 2017; 17: 15-17
- 2 Wong J. Wairarapa/ Hutt Valley/ CCDHB: Dyspepsia/ GORD Health Pathway (Under development) 2018
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and recommendations from and international consensus Group." *Neurogastroenterology & Motility*. 2017;29:e13067

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- 5 Aziz et al. "Rome IV Criteria. Section II: Functional Oesophageal disorders." *Gastroenterology* 2016;150:1368-1379

* Author's own images.

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The Evolving Field of Adult Congenital Heart Disease (ACHD)

Wakefield Hospital

Area: Cardiology

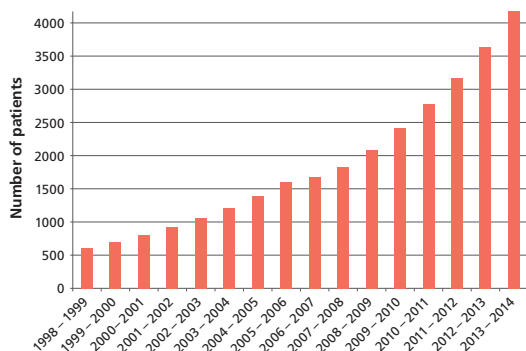
Article written by: Dr Andrew Aitken, Interventional Cardiologist, ph (04) 381 8115

Approximately one in a hundred babies are born with an underlying congenital heart defect. These range from minor defects that improve in early life (such as the spontaneous closure of small ventricular septal defects), to severe life-threatening conditions that require urgent surgery within the first few days of life.

With the huge improvements in surgical and anaesthetic techniques, as well as care provided by dedicated paediatric intensive care units, babies who may have died in the past are now surviving until adult life. Contemporary data suggests that 95% of infants with congenital heart disease will now survive to adult life¹. As a result, we see in international datasets the situation whereby adults with congenital heart disease now outnumber children and the number of adults requiring ongoing care is rapidly expanding (Figure 1).

What is also clear is that these children, as they become adults, develop problems that are unique to them and their underlying condition, and emphasises that rarely are children with congenital heart disease cured by their surgery. The evolving field of Adult Congenital Heart Disease has sprung up to manage these adults and their special needs. There are cardiologists with specific expertise and interest in the main centres in New Zealand with good links to smaller regional centres.

Figure 1 Adult Congenital Patients Followed at Montreal Heart Centre 1998-2014



In general terms some of the specific issues that arise include the following:

1 Lost in transition

The teenage years are a time of great change for our patients. They are taking on the awareness of their underlying condition and the potential impact it may have on their lives as they assume adulthood. Issues of employability, insurability, pregnancy and longevity all may arise and need to be treated with sensitivity. Even with the best of wills, patients are lost to follow-up at this time². As a group of health professionals, we need to work closely to ensure that the children are not lost to follow-up in the transition to adult services.

2 Pregnancy

Underlying cardiac conditions are still the commonest cause of maternal mortality in the Western World³. The increased physiological demands placed on the heart by pregnancy may either unmask previously unidentified pathology or exacerbate a known pre-existing condition, with important sequelae for mum and baby. Preconception counselling as well as close monitoring in a high risk multidisciplinary clinic are essential. What may prove challenging is assessing breathlessness and / or heart murmurs in pregnancy and

ensuring that there is no underlying cardiac condition. While echocardiography is very helpful, it may well be that a standard blood test measuring BNP (brain natriuretic peptide) will help as a preliminary test to exclude the need for further investigations. A normal BNP level makes an underlying cardiac cause of symptoms very unlikely⁴.

3 Potential need for further interventions

Serial observation may be required to identify a potential time for further procedures to be performed. A good example is the cohort of adults who have had Tetralogy of Fallot corrected in early childhood. (figure 2a and 2b). A significant proportion of them will have an incompetent pulmonary valve and free pulmonary regurgitation. While it was previously thought that this was well tolerated, in more recent times it has become clear that a proportion will require further surgery (likely a pulmonary valve replacement). The timing of this depends on regular monitoring both for symptoms (which may be insidious), and right ventricular strain. This relies on frequent assessment and imaging, both with cardiac ECHO and MRI.



4 Management of arrhythmias

A heart that has been scarred by previous surgery, or whose chambers have been put under additional strain because of unusual anatomy, is ripe for the development of arrhythmias. In addition, because of having an abnormal substrate, even common arrhythmias such as atrial fibrillation may be poorly tolerated. They may well be markers of the heart itself coming under strain and the potential need for further interventions. Prompt identification of arrhythmias and referral to specialist services are important because of this.

5 The failing heart

Despite the best of surgical techniques and comprehensive care, a proportion of people will end up with heart failure as a consequence of their underlying condition. This can occur at a cruelly young age with limited options and may require consideration of cardiac transplantation or palliation.

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 - 3 Knight M, Tuffnell D, Kenyon S, et al. (eds) on behalf of MBRRACE-UK. 2015. *Saving Lives, Improving Mothers' Care – Surveillance of maternal deaths in the UK 2011-13 and lessons learned to inform maternity care from the UK and Ireland Confidential Enquiries into Maternal Deaths and Morbidity 2009-13*. Oxford: National Perinatal Epidemiology Unit. www.npeu.ox.ac.uk/mbrrace-uk/reports
 - 4 Tanous D., Siu SC., Mason J, et al. "B-type natriuretic peptide in pregnant women with heart disease." *J Am Coll Cardiol* 2010; 56: 1247-53
- * Figure 1 graph credit: *Canadian Journal of Cardiology* 30 (2014) S410-S419
 * Figure 2 images credit: University of Basel, New Media Center.

Messages for Primary Care

- GPs, with their long-term involvement with a child and their family, are pivotal in ensuring that children with congenital heart disease are not lost to follow-up as they become adults.
- If you look after a patient who has had cardiac surgery in childhood, please ensure that they are having appropriate follow-up. If they are not being reviewed then please refer to cardiology services to determine if follow-up is required and allow them to coordinate review by a specialist with adult congenital expertise if needed.
- Ensure women of child-bearing age with a pre-existing congenital cardiac condition are promptly referred, preferably before they become pregnant, to specialist clinics to discuss and plan potential pregnancies.
- Consider the utility of BNP levels to determine whether symptoms of breathlessness in a pregnant woman may have a cardiac basis and require further investigation.
- Promptly refer ACHD patients with arrhythmias (or suspicious symptoms such as syncope) for specialist assessment.



WAKEFIELD
HEART CENTRE

Dr Andrew Aitken

is a cardiologist from Wellington who has a specific interest in the management of congenital heart disease. He also is an experienced interventional and general cardiologist.

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Figure 2a
Tetralogy of Fallot

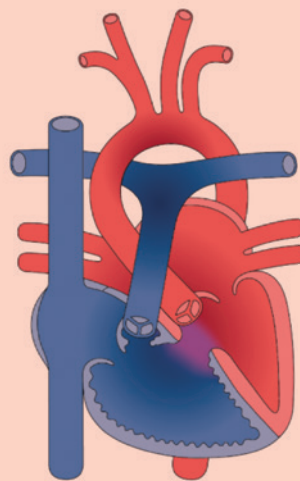
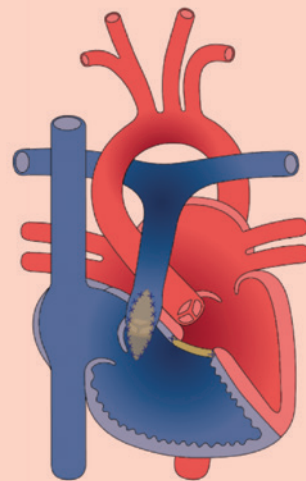


Figure 2b
Tetralogy post repair



Recurrent Chest Infections

Bowen Hospital

Area: Respiratory
Article written by: Dr Nicola Smith, Respiratory Physician, ph (04) 479 2019

Chest infections occur frequently in the general population and are a common reason for patients to consult their GP. Whilst no data exists on what constitutes a “normal” frequency of respiratory infections, many patients and their doctors will begin to perceive a problem when the frequency is ≥ 3 chest infections per year or when a prolonged course of antibiotics appears to be required to clear each infection.

When respiratory infections are severe, persist despite standard therapy, recur after treatment is finished or at an unexpected frequency, or where the isolated organism is unusual within the clinical context, further investigation for underlying causes is warranted.

The aetiology of recurrent chest infection can be considered in three categories:

1	Non-infectious bronchitis
2	Presence of underlying lung disease
3	Immunodeficiency

1 Non-infectious bronchitis

Non-infectious bronchitis caused by allergy and inflammation is more common than immunodeficiency. Pulmonary symptoms such as a productive cough with discoloured sputum are not necessarily infective unless proven radiologically or microbiologically, but the average patient may interpret them as such and seek medical attention for a “chest infection”. Chronic rhinosinusitis frequently leads to the persistent passage of mucoid secretions into the lungs, leading to recurrent episodes of bronchitis. Similarly, poorly controlled allergic asthma can present with recurrent episodes of cough and sputum, easily misinterpreted as recurrent infection.

2 Underlying lung disease

Recurrent chest infections can also indicate underlying lung pathology. The most common lung disease within the NZ population presenting with recurrent respiratory infection is bronchiectasis. It is important to identify bronchiectasis as further assessment is required to diagnose aetiology and provide optimal management. Bronchiectasis is a heterogeneous disease with an aetiology including hypogammaglobulinemia, non-tuberculous mycobacterial infection, and previously

undiagnosed variants of Cystic Fibrosis. Given the heterogeneous nature of the disease, individual management is determined by the underlying cause, microbiology etc., however reducing the frequency of infective exacerbations to prevent disease progression remains the goal.

Many advances have been made in this area in recent years, with patients having access to a wider range of novel treatments including immunoglobulin replacement in appropriate circumstances.

Less common causes of recurrent chest infection are lung cancer and aspiration of a foreign body. These should be considered when there are episodes of recurrent infection with an abnormal chest X-ray which does not improve after appropriate antibiotics.

3 Immunodeficiency

Immunodeficiency is a less common cause of recurrent chest infections. This may be a primary humoral immunodeficiency (CVID, specific antibody deficiency, IgA deficiency) or a secondary immunodeficiency due to medications, HIV or underlying haematological malignancy. Rarely vasculitis or other autoimmune disorders can present with recurrent chest infection.



Patients should be referred urgently to a respiratory physician if there is an abnormal chest X-ray which does not improve after appropriate antibiotics, or if there is significant haemoptysis reported. In this setting lung cancer needs to be excluded.

Specialist referral may also be considered when there are frequent chest infections, chest infections requiring prolonged courses of antibiotics or the need for antibiotics for ≥ 2 months of the year, growth of *Pseudomonas*, Non-

tuberculous mycobacteria, or other unusual organisms on sputum samples, the persistence of cough or dyspnoea in between episodes of infection, the presence of other features of autoimmunity, a history of foreign body aspiration or a known swallowing disorder.

Specialist assessment may involve imaging of the chest and sinuses, spirometry, allergy and immunodeficiency testing, and bronchoscopy if the pattern of infection is suggestive of atypical infection or anatomical abnormality.

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Bowen Specialist Centre
Crofton Downs
Wellington

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When to refer a patient with recurrent chest infections:

- ✓ Persistent CXR abnormality
- ✓ Haemoptysis
- ✓ ≥ 3 chest infections per year
- ✓ Need for prolonged courses of antibiotics
- ✓ Atypical organisms on sputum
- ✓ Persistence of respiratory symptoms between episodes of infection
- ✓ Other features of immune dysfunction eg coeliac disease, autoimmunity.



Upcoming CME Meetings

Acurity Health Group hosts a variety of Continuing Medical Education (CME) sessions for GPs throughout the year. Each session provides the opportunity to meet consultant physicians and surgeons, receive expert feedback and discuss topics.

To suggest a topic of interest or request information please contact Sarah Malone, Business Development Manager, P: (04) 920 0158, E: sarah.malone@acurity.co.nz
To register, please email events@acurity.co.nz

Upcoming CME Meetings					
Date	Speaker	Speciality	Topic/Details	Venue	CME endorsed
5 April Thurs	Dr Ken Romeril and Dr Anup George	Haematology	Haematology Update 2018	Bowen Hospital, Seminar Room	2 credits
11 April Wed	Dr Ken Romeril and Dr Anup George	Haematology	Haematology Update 2018	Bowen Hospital, Seminar Room	2 credits
May	Mr Reuben Johnson and Kay Cunningham	Neurosurgery and Psychology/ Neuropsychology	Head Injury and Concussion	Wakefield Hospital, Education Centre	2 credits
25 & 26 May Fri & Sat	Acurity GP Conference: Connect 2018	For more information and to register go to www.acurity.co.nz/connect		Te Papa, Wellington	11.5 credits
June	Mr Simon McDowell and Mr Nick Bedford	Gynaecology	TBC	Wakefield Hospital, Education Centre	2 credits
12 June Tues	Miss Ineke Meredith	General Surgery	Let's Talk About Boobs	Wakefield Hospital, Education Centre	2 credits
June	Mr Albert Lo	Vascular	TBC	East Pier Hotel, Napier Royston Centre, Hastings	2 credits
July	Mr Stephen Toynton	ENT	Seminars in ENT – Part 1	East Pier Hotel, Napier Royston Centre, Hastings	2 credits
October	Mr Stephen Toynton	ENT	Seminars in ENT – Part 2	East Pier Hotel, Napier Royston Centre, Hastings	2 credits
February 2019			Seminars in ENT – Part 3	East Pier Hotel, Napier Royston Centre, Hastings	2 credits



Connect 2018



TOPICS
COVERED
ARE ALL
DIRECTLY
APPLICABLE
TO THE
BETTER
DIAGNOSIS
AND CARE
OF YOUR
PATIENTS



Conference
programme
enclosed

Te Papa,
25 & 26 May 2018

Acurity Health Group is proud to be the organisers of Connect 2018, the Acurity GP Conference, to be held at Te Papa on 25th and 26th May 2018.

Presented by Wakefield, Bowen and Royston Hospitals in association with the Department of Primary Health Care and General Practice, University of Otago, we hope you will join us as we celebrate this, our 20th annual GP conference.

The programme will focus on the main themes of gut health, pain management and musculoskeletal conditions, oncology and end of life care, and clinical dilemmas. A multidisciplinary group of leading healthcare experts will share their unique perspectives on research and advances in these key areas in an effort to better anticipate and meet the needs of patients. Other areas specifically relevant to GPs will be presented, ideas exchanged and actively discussed, with opportunities to connect with peers and leading industry players.

Guest speaker Mike King will provide an insightful and enlightening look into "The Serious Business of Depression" with tools to help those in need.























Invitations are open to all general practitioners, registrars, registered nurses and practice managers. We look forward to welcoming you and invite you to enjoy the best Connect 2018 has to offer.

To register, please visit www.acurity.co.nz/connect or contact Sarah Malone on (04) 920 0158. You may also call Sarah if you have any questions about the conference.









Programme Preview












Friday 25 May 2018 – Day One

0800	Registration Desk Open		
0845	Official Conference Opening Remarks	 	Acurity Health Group Ltd Dr Lynne McBain, Head of Department, Primary Health Care and General Practice, University of Otago, Wellington
 GUT HEALTH			
0900	 Tackling the Obesity Epidemic		Professor Boyd Swinburn
0945	 Advances in the Treatment of Advanced Colorectal Cancer and Prevention of Anal Cancer		Professor Elizabeth Dennett General Surgeon
	 Of Bugs And Bases; What Causes Colorectal Cancer?		Mr John Keating General Surgeon
	 National Bowel Screening Programme in General Practice		Professor Diana Sarfati
1050	Morning Tea		
1120	Lightning Talks:		
	 Obesity the Disease: an Update		Mr Simon Bann General Surgeon
	 Inflammatory Bowel Disease in Children – a Growing Problem		Dr John Wyeth Gastroenterologist
	 From Diagnosis Through to Advocacy in Primary Care – A Paediatric Surgical Perspective		Mr Brendon Bowkett Paediatrician
	Q	Q & A	
1220	Lunch and Exhibition		





 CLINICAL DILEMMAS			
1320		Cardiology – Panel Discussion:	
		<ul style="list-style-type: none"> Management of Severe Aortic Stenosis in the Elderly The Patient: A Case Presentation The Case for TAVI (Transcatheter Aortic Valve Implantation) Surgical Aortic Valve Replacement Do You Really Think This is a Good Idea? 	 Dr Malcolm Abernethy Interventional Cardiologist (Panel Chair)  Adj Professor Alex Sasse Cardiologist (Panel Member)  Dr Phil Matsis Interventional Cardiologist (Panel Member)  Adj Professor Sean Galvin Cardiothoracic Surgeon (Panel Member)  Dr Sinead Donnelly General Physician (Panel Member)
		What do you think?	Audience Poll and Panel Discussion
1405		Repair of Hand Injuries. Burn Injuries.	 Mr Marcus Bisson Plastic Surgeon
		Chronic Kidney Disease in NZ: An Opportunity to do the Simple Things Well	 Dr Colin Hutchison Medical Director at Kidney Health NZ
		Imaging of Abdominal Pain	 Dr Rodney Wu Radiologist, Pacific Radiology
1510	Afternoon Tea		
1540	Lightning Talks:		
		Management of DVT – What is the Role of Surgical Intervention?	 Dr Lupe Taumoepeau Vascular Surgeon
		Key Tools for Working With an Asphasic Patient	 Naomi Bondi Speech Language Therapist
		The New Inhalers for COPD	 Dr Justin Travers Respiratory Physician
		TBC	 TBC
	Q	Q & A	
1655		The Serious Business of Depression	 Mike King Keynote Speaker
1730	Closing Remarks for Day One		
1735	Networking Function Hosted by Acurity Health Group Ltd		

Saturday 26 May 2018 – Day Two

0800	Registration Desk Open		
		PAIN MANAGEMENT AND MUSCULOSKELETAL CONDITIONS	
0845		Dealing with Patients who go on to have Spinal Surgery	 Mr Jonathon Richards Orthopaedic Surgeon
0915		More than a Wrist Sprain	  Karen Below and Nicole Darkow Occupational Therapists
0925		Lightning Talks:	
		Managing Chronic Pain	 Dr Gireesh Kanji Musculoskeletal Pain Specialist
		Lumbar Spinal Stenosis – Surgery Versus Conservative Management and Minimal Invasive Treatment Options	 Mr Helge Koeck Neurosurgeon
		Back Pain Assessment and Management Skills	  Mark Sherley and Gwen Oliver Physiotherapists
	Q	Q & A	
1020	Morning Tea		
1055		Elbows (TBC)	 Mr Ilia Elkinson Orthopaedic Surgeon
		Early Identification of Inflammatory Arthritis	 Dr Nicholas Kennedy Rheumatologist
		Feet and Ankles (TBC)	 Mr Nigel Willis Orthopaedic Surgeon
1200	Lunch and Exhibition		

		ONCOLOGY UPDATE / END OF LIFE CARE	
1300		Use of PMSA Scans in Radiation Treatment Decisions	 Dr Nichola Naidoo Radiation Oncologist
		Vulval Disease – Management of Common Symptoms and how to Spot the Rare Cancer	 Dr Amanda Tristram Gynaecology Oncologist
		Urine Tests for Bladder Cancer and New Treatment for Peyronie's Disease	 Mr Rod Studd Urologist
1410		Current Treatment Strategies in the Treatment of Non- Small Cell Lung Cancer	 Dr Brendan Luey Medical Oncologist
1435	Prize Draw		
		Treatment and Diagnosis of Multiple Sclerosis in NZ	 Dr Jennifer Taylor Neurologist
		End of Life Prescribing	 Dr Brian Ensor Director of Palliative Care, Mary Potter Hospice
		Stretching Break – Simple Exercises for Balance in Older People	  Jamie Belesky and Brogan Treanor Physiotherapists
		From Cognitive Impairment to Dementia	 Dr Crawford Duncan Psychiatrist
1555	Close of Conference Final Remarks		

Legend

-  **Plenary sessions** (Soundings Theatre)
-  **Lightning talks** (short, sharp sessions)
-  **Questions for lightning speakers**
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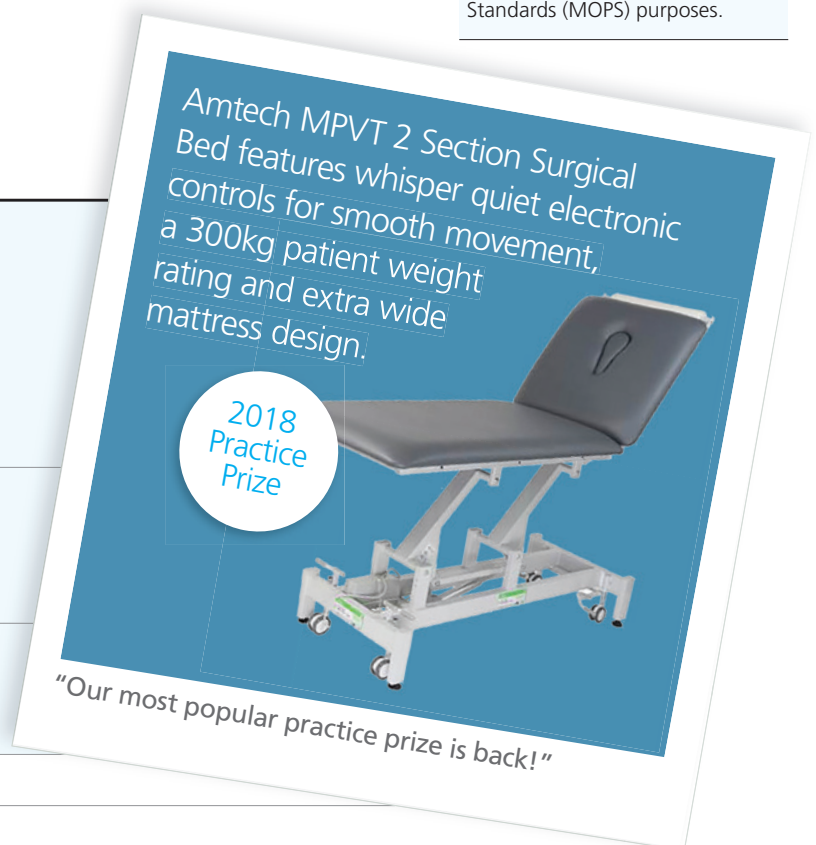
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The Proactive Approach to Concussion

Ms Kay Cunningham



Proactive4Health

Area: Neuropsychology. Article written by: Ms Kay Cunningham, National Manager, Community, Concussion and Psychology, ph 021 450 298

The following is a summarised article. The full text including tips for GPs dealing with concussion, can be found on www.proactive4health.co.nz/concussioninfoGPs

Concussion, as a mild form of traumatic brain injury, is usually caused by a jolt or blow to the head or face. Research now shows that high velocity impact to the body can also result in impact forces sufficient to cause a concussive effect. Signs and symptoms experienced by the patient are due to a complex, transitory pathophysiological process causing neuronal dysfunction from the impact of ionic shifts, altered metabolism, impaired connectivity, or changes in neurotransmission¹. Additionally, neck strength appears to be a factor as one of the potential mechanisms of injury for concussion².

A Physical activity

Gradual/gentle resumption of aerobic physical activities has been found to result in superior recovery from concussion compared with complete rest. Specifically, recent research indicates early return to light activity is key in reducing the risk of Post-Concussion Syndrome (PCS). Within the Proactive Concussion Service, endurance to physical activity can be objectively measured by using the treadmill test, with a graduated programme developed specific to the patient's needs. Other physiotherapy treatments can also be provided, such as identification and treatment of cervical spine dysfunction

with musculoskeletal treatment; vestibular and visual rehabilitation; and cardiovascular training. Medical Specialist input can provide medical treatment of headaches and other physical symptoms, as well as assisting in determining when return to play may be appropriate.

B Cognitive activity

As with a return to physical activity, increasing cognitive activity duration needs to be balanced carefully with cognitive rest. The degree of rest versus activity varies from patient to patient. Short bursts of cognitive effort, as opposed to prolonged sustained effort, are recommended with rest periods that involve low sensory stimulation.

Within the Proactive Concussion Service, Clinical Neuropsychologists and Neuro-Occupational Therapists work together to provide the patient with education and strategies to manage and improve cognitive issues and performance, through a carefully formulated programme individualised to their specific needs. Psychological intervention can assist in reducing the emotional reactivity to the difficulties experienced, thus helping the patient to cope as well as reducing magnification of symptoms that potentially could result in PCS.

C Return to play

Return to activity during recovery should not include activities that pose a risk of re-injury. Return to play (based on ACC SportSmart Guidelines) is considered most appropriate after a graded programme of exertion (physical and mental) is completed and the patient has fully returned to school or work, and social activities.

D The influence of lifestyle on recovery

As with any injury or illness, recovery is greatly influenced by a range of lifestyle factors. Education regarding recovery-oriented lifestyle choices can help to empower the individual to take control of certain elements of their recovery. In addition to guidelines around physical activity and exercise, research demonstrates that aspects of specific nutritional and sleep hygiene intervention can lead to enhanced recovery from concussion and its associated symptoms.



Proactive's "Four Corners of Health" approach integrates the best of treatment

and rehabilitation, with lifestyle advice and coaching to ensure that clients are empowered to make positive choices in line with aspects of their recovery that they can control, whether this be in the form of physical activity, diet, sleep or adopting a mindset that will foster recovery.



The Proactive Wellington Concussion Service can be accessed directly by Medical Practitioners on behalf of the patient. For more information and access to the ACC883 Referral Form, please visit the following links:

- Concussion Service Referral Form can be found on the ACC Website by searching for "Concussion Referral"; or at this URL: www.acc.co.nz/assets/provider/acc883-concussion-service-referral.doc
- For more information regarding our Concussion Service: www.proactive4health.co.nz/wellington-concussion-service/
- Contact us for more information or advice at referrals@proactive4health.co.nz

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Managing Patient Expectations for Cataract Surgery

Bowen Hospital

Area: Ophthalmology

Article written by: Mr Kenneth Chan, Ophthalmologist, ph (04) 499 4940

Cataract removal by phaco-emulsification (liquefaction of lens material by high-frequency ultrasonic power) has been available in New Zealand since the 1990s and is now the gold-standard treatment for the vast majority of patients presenting with visual difficulties due to cataracts.



Any pre-existing infection at the ocular surface or the lacrimal drainage system (such as dacryocystitis) should be fully treated before cataract surgery is performed.

A large-scale audit of cataract surgery outcomes in the United Kingdom has identified a number of pre-operative factors that are associated with poorer visual outcomes². Factors that render cataract surgery more technically challenging include increased age, shorter axial length, smaller pupil size, pre-existing diabetic retinopathy as well as other ocular co-morbidities. While risk factors such as advanced age are outside the surgeon's control, appropriate strategies to manage identifiable risk factors will improve the likelihood of a good surgical outcome.

Patients on alpha-blockers such as Doxazosin or Tamsulosin are at higher risk of developing iris prolapse during surgery and will benefit from pre-operative topical atropine and intracameral phenylephrine, in addition to the use of iris hooks that anchor the iris and enlarge the pupil to facilitate access to the lens itself. Due to the pro-inflammatory effect of cataract surgery, patients with pre-existing macular disease should be medically stable before cataract surgery is performed. This can usually be achieved with a combination of periocular, intravitreal or laser treatment to the posterior segment, in conjunction with post-operative non-steroidal anti-inflammatory medications.

Furthermore, the development of safe and effective surgical techniques such as 'phaco-chop' has allowed successful cataract extraction with minimal ultrasonic power. This has reduced the rate of transient and permanent corneal decompensation, especially delivered with modern phaco machines that are able to deliver torsional power. The 'phaco-chop' technique is now widely adopted and taught to most trainee ophthalmologists in New Zealand.

Technological advancement in ocular imaging techniques, intraocular lens designs and intraoperative fluidics management, as well as better understanding of perioperative medical management from epidemiological studies, have led to a better safety profile and more predictable refractive outcomes. Nowadays it would be reasonable for patients undergoing cataract surgery to expect very good vision from a relatively painless procedure with low rates of complications and relative spectacle independence. This article will outline what patients can reasonably expect from modern cataract surgery in New Zealand – that it is **complication free** and **pain free** in most cases, with many patients being **glasses free** upon completion of their treatment.

Reducing complication rates from cataract surgery

Complication free:



Serious complications such as endophthalmitis (intraocular infection) are thankfully rare but can be potentially devastating. A large-scale randomised controlled trial conducted by the European Society of Cataract and Refractive Surgeons involving over 16,000 patients confirms a nearly five-fold increase in the risk of developing endophthalmitis without the use of cefuroxime within the anterior chamber (intracameral) at the end of the procedure¹. Most surgeons in New Zealand would administer intracameral or subconjunctival antibiotics at the end of routine cataract extraction. Topical antibiotics are usually prescribed post-operatively but their role in preventing endophthalmitis is less well-established.

Ensuring patient comfort during cataract surgery

Pain free:



Every patient would prefer a painless, pleasant experience during their operation. It is now commonplace for cataract surgery to be performed under local anaesthetic only, but a general anaesthetic is still occasionally required for patients who are restless, highly anxious, or intellectually disabled.

Simple manoeuvres such as verbal reassurance or hand-holding by support staff can often reduce anxiety levels, in addition to small amounts of intravenous anxiolytics that can be administered by the anaesthetists. Oral sedation alone is often unsatisfactory due to its unpredictable effect on the patient's conscious state. Many patients can be adequately anaesthetised with topical and intracameral anaesthetic agents only.



This is particularly beneficial in patients with an only-seeing eye undergoing surgery, as this ensures rapid restoration of vision at the end of the procedure, and some patients prefer not to have a 'red eye' from subconjunctival haemorrhage commonly seen after a sub-tenon block. Nevertheless, **sub-tenon anaesthesia** provides better akinesia, with a varying degree of suppression in optic nerve function that reduces the chance of the patient 'seeing' the surgery. Sub-tenon block remains the most common method in local anaesthetic administration during cataract surgery. Retrobulbar or peribulbar blocks, which involve injections into the posterior orbit with sharp-ended needle, are rarely performed nowadays, due to increased risk of retrobulbar haemorrhage and inadvertent globe perforation without substantial benefit in patient comfort.

Maximising visual performance following cataract surgery

Glasses free:



The optical principles underpinning human visual systems are highly complex. The two biggest determinants on patients' refractive status are the curvature of the corneal surfaces and the axial length of the globe; a mismatch between the two factors will lead to refractive error (myopia and hypermetropia). Modern ocular imaging techniques allow experienced operators to measure corneal curvatures, axial lengths and

other intraocular parameters to higher degrees of accuracy than ever before. Ophthalmologists determine the dioptric power of the intraocular lens inserted based on these measurements, which are fed into formulae that are most commonly derived from logistic regression analysis. Therefore unexpected results can occasionally occur due to variations in the anatomy in individual patients, which are more likely in patients with high degrees of myopia and hypermetropia.

In general, most patients can achieve relative spectacle independence for specific tasks from a monofocal intraocular lens implant.

It is important for ophthalmologists to discuss with patients their desired refractive target; most patients would prefer excellent unaided distance vision for driving, but some patients with long-term mild myopia would prefer having excellent reading vision and their refractive target needs to be adjusted accordingly. Pre-existing astigmatism can now be corrected with monofocal toric lens implants; these implants need to be aligned accurately at the time of surgery, but patients can expect stable, predictable astigmatism correction long-term from toric lenses.

Some patients are motivated to become truly 'glasses-free' for all visual tasks, including far, intermediate (for computer work) and near distances (for reading), which is difficult to achieve in patients with presbyopia (loss of accommodation for near work). It is important for patients to understand that

all current strategies to achieve multi-focality in aged eyes involve compromises in other aspects of visual performance, and that it is difficult to 'turn back the clock' on their eyes so that their visual performance is similar to a young adult. Blended vision is a common option offered to patients, when the non-dominant eye is deliberately set a myopic target that becomes the 'reading eye'. However, such patients will usually have weaker binocular vision and some patients may not tolerate the discrepancy in focus between the two eyes. Another option that has become more widely available is **multifocal intraocular lens implant**. Various designs exist for these implants, which usually achieve multiple foci within the same eye by incorporating concentric diffractive rings within the implant itself. Multifocal implants are particularly well-tolerated by hypermetropic patients who have been used to a level of blurring in their vision throughout their adult life. However, the presence of additional diffractive rings within the implant leads to reduced contrast sensitivity and there is a higher incidence of clinically significant higher-order aberrations, such as glare and halo, with the use of multifocal lenses. Fortunately, such symptoms tend to reduce with time in most patients due to neural adaptation; implant exchanges are rarely necessary.

Options available for patients with significant residual refractive error following cataract surgery include conservative management with spectacles or contact lenses, intraocular lens

exchange, supplemental lens implantation and laser refractive corneal surgery. In general, mild to moderate degrees of residual refractive error will respond well to supplemental implants or laser refractive surgery. Patients who do not tolerate multifocal lenses after a period of months will require an intraocular lens exchange.

Conclusion

Modern cataract surgery is safe and effective for the vast majority of patients. Nevertheless, it is important for ophthalmologists to provide succinct but sufficient information, so that patients are fully informed of potential risks of their operation as well as potential options in their refractive target that would maximise spectacle independence.

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Liquid Medication Disposal

Wakefield Hospital

Area: Quality. Article jointly written by: Lynne Green, Registered Nurse and Carol Tiatia, Quality Assurance Coordinator

We all want to leave a positive footprint on our environment for both our generation and future generations.

Wakefield Hospital is committed to doing their part for the environment, and is achieving this by no longer polluting our waterways with liquid drugs including opioids. This in turn is protecting the aquatic life and eventually the food chain. We are aiming to be the leading private hospital in New Zealand in stopping pouring medications into our waterway system and helping protect our environment.

Intensive research worldwide and in New Zealand has shown that unused liquid drugs disposed of down the sink or toilet into the waterway and sewage system are detrimental to the environment (Tong, Peake & Braund, 2011). Eustice, (2010) states "just because this method is still common practice does not make it responsible or safest practice". She also states that "proper disposal is still an emerging environmental issue". Journal of Environmental Health (2003 & 2004) is aware of the impact of medicines such as antibiotics, hormone painkillers and anti-depressants that are now found in the waterways and is raising questions about potential health and environmental impacts. Studies have linked hormone exposure to reproductive side effects in fish. Bound & Vouloulis, (2005) have also discovered the contamination and side effects of pharmaceuticals in aquatic life in both fresh and marine

waters in the United Kingdom. The Greater Wellington Regional Council website states pollutants can cause damage at the Moa Point Treatment Plant (Wellington Government, 2012; Wellington Government Trade Waste Bylaw, 2004). Gielen, (2007) of University of Canterbury Research Repository states that pharmaceutical impact on the environment is poorly understood. Sewage treatment plants are unable to completely remove the pharmaceuticals and this in itself affects the micro-organism community.

You are asking, what and how has Wakefield Hospital been able to accomplish by making changes to long-term practices?

A successful trial over a three month period was performed in various areas of Wakefield Hospital using different mediums such as newspaper, tissue paper, kitty litter and coffee grounds. None of these achieved the desired results for ease of disposal and being odour free. Verna gel powder was trialled and found to be very efficient. Verna gel allowed good absorption of the liquid drug turning it into a solid matter making it suitable for destruction. From one ward alone, the average volume disposed of in one month was 2407.7mls.

Our ecological footprint



Following the trial, a change to the relevant Wakefield Hospital policy was put into practice and successfully instigated.

No liquid medications are now poured down the sink, therefore no pollution to our waterways or sewage system comes from Wakefield Hospital.

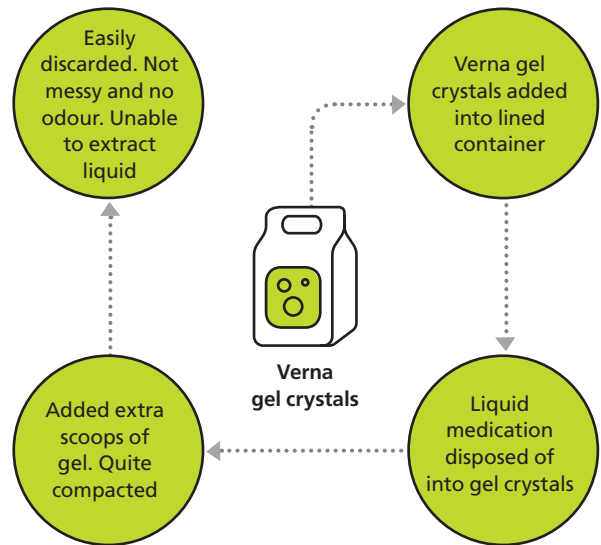
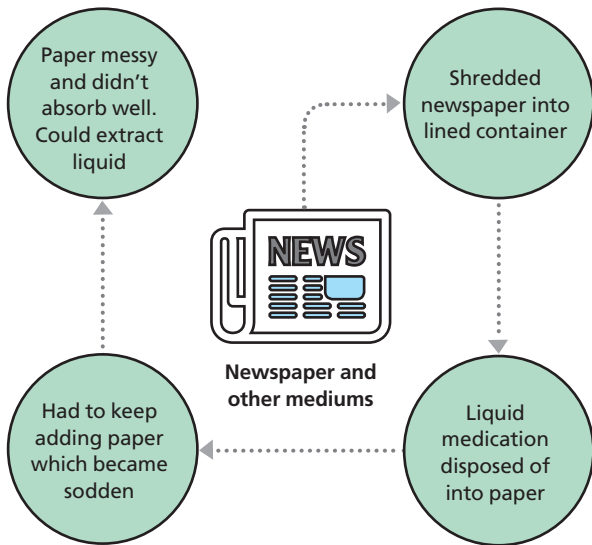
Disposal into our waterways is not desirable, although it is the easy route taken. This is a world-wide problem that is now being addressed in a limited way. Serious consideration to alternative methods can be achieved at a very low cost in dollars but with a huge benefit to the environment.

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Liquid Waste Disposal Methods Trialled



In summary a positive move to the future would be to see all hospitals and pharmacies throughout New Zealand take on this method of drug disposal. This will then have a major positive impact on our environment and help clean up our waterways, in turn helping maintain healthy aquatic life and human health. We can then look forward to a positive future for all generations.



Epidermal Growth Factor Receptor Inhibitors and Acneiform Rash

Ms Catherine Oliver



Bowen Hospital

Area: Oncology

Article written by: Ms Catherine Oliver, Specialist Oncology Pharmacist, ph (04) 896 0200

Newer cancer therapies are developed to target specific molecular abnormalities in various types of cancer. One such target is the epidermal growth factor receptor (EGFR). EGFR is part of an important signalling pathway for cell proliferation, survival and differentiation. The receptors are normally expressed on epithelial tissue such as skin and hair cells.

EGFR is overexpressed in approximately 30% of non-small cell lung cancer patients. It is overexpressed more commonly in females, non-smokers, adenocarcinomas and in Asian people¹.

EGFR is also overexpressed in some patients with colorectal cancer and more than 90% of squamous cell cancers of the head and neck².

Drugs which target EGFR in non-small cell lung cancer (NSCLC) patients include gefitinib (Iressa), erlotinib (Tarceva) and osimertinib (Tagrisso). These are all orally administered tablets that are taken continuously by the patient. They belong to a group of drugs known as tyrosine kinase inhibitors. These drugs target the intracellular tyrosine kinase domain of EGFR.

Drugs which target EGFR in patients with head and neck cancers and metastatic colorectal cancer include cetuximab (Erbix) and panitumumab (Vectibix). These drugs are monoclonal antibodies which are infused intravenously. These drugs target the extracellular domain of EGFR.

About 85% of patients who are administered any type of EGFR inhibitor have the unwanted adverse effect of an acneiform rash. This rash commonly appears over the face and upper trunk. The rash will usually appear after 1 to 3 weeks of therapy and usually peaks after 4 weeks of therapy. Patients having intravenous treatment with cetuximab or panitumumab may notice a flare of the rash after each infusion.

The acneiform rash is described as erythematous papules and pustules. Once the initial rash has resolved, usually between 5 to 8 weeks – erythema, telangiectasias and dry skin can remain. Although the aetiology of the rash is not infectious, secondary infection may occur.

Early identification and treatment can help patient adherence to treatment and avoid dose reductions of a potentially life-prolonging drug.

For patients with a grade 2 rash, the usual treatment is doxycycline 100mg orally twice daily and topical hydrocortisone 1% cream. Over-the-counter topical acne preparations such as benzoyl peroxide or retinoids are not recommended. An antihistamine may be of use if the patient has pruritus.

For patients with rashes that are grade 3 or worse which have not responded to oral antibiotics and topical steroids, a dose reduction of their EGFR inhibitor may be necessary. The addition of a short course of oral steroids may also be required.

A prophylactic approach with tetracyclines is also an option. A 2016 meta-analysis showed a reduction in rash severity when antibiotics were started in conjunction with the first day of EGFR treatment³.

Because 85% of patients will develop a rash, pre-treatment education should cover:

- Wearing sunscreen daily
- Using unperfumed emollient creams regularly
- Avoiding over-the-counter acne products
- Using lukewarm water for bathing and showering
- Avoiding perfumed soaps and detergents⁴.

There is an advantage to having a EGFR induced acneiform rash. The rash is often considered to be a surrogate marker for efficacy of therapy. In NSCLC patients treated with gefitinib or erlotinib, there is a

relationship between skin rash and overall survival and progression-free survival⁵. Similarly, metastatic colorectal patients who developed a moderate or severe rash with cetuximab or panitumumab had a longer overall survival and progression-free survival.

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Electronic Discharge Summary

Acurity Health Group

Area: Quality.
Article written by: Brenda Bruning, Manager Safety, Quality and Risk, ph (04) 920 0131



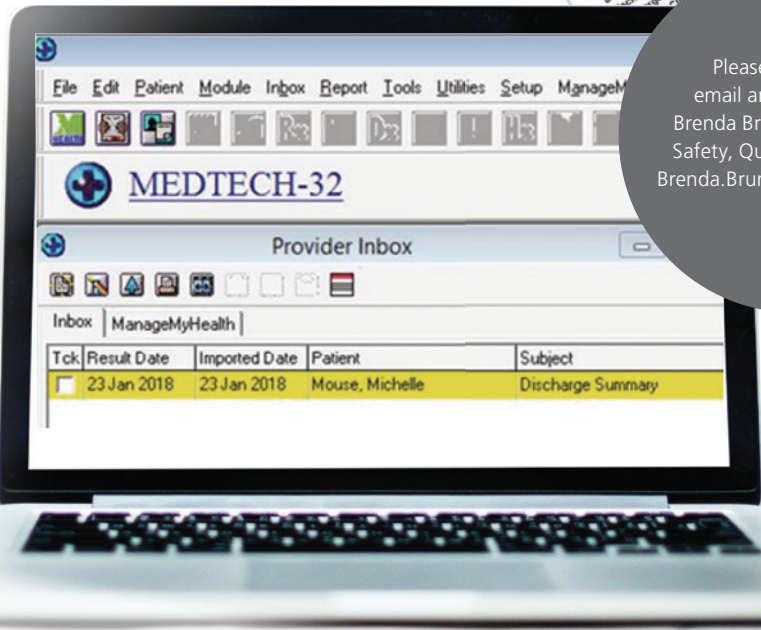
Acurity Health will soon be sending general practitioners electronic discharge summaries when one of their patients is discharged from Bowen, Royston, or Wakefield.

Since receiving feedback concerning the readability as well as the value of the information contained in the summary, we have been developing a new summary to come directly from our patient management system.

For the GP this means receiving these summaries via Healthlink on the day the patient is discharged. Final testing is underway which will be followed by a phased roll out starting with Bowen, followed by Wakefield and Royston with a view to this process being completed in the next few months.

During the first three months we are providing you with an opportunity to contribute to the development of the summary to ensure that we provide you with a useful document to support continuity of care delivery.

Please feel free to email any feedback to Brenda Bruning, (Manager Safety, Quality and Risk) at Brenda.Bruning@acurity.co.nz



How the message will appear in your inbox.



Medication Safety Challenge

Royston Hospital

Area: Quality

Article written by: Jane Davidson, Quality Coordinator



Royston Hospital recently submitted its Medication Safety Challenge project for the annual Evolution Healthcare Quality Awards.

Following internal audits against ISO standards, it was found a number of improvements were necessary which could contribute to enhancing medication safety. The project has taken a comprehensive approach to look at the policy, communication, high risk medications, staff education, patient education, medication storage and documentation.

The project is only half-way through the improvement timeline with changes made which include premixed patient controlled analgesia (contributing to a reduction in the number of narcotic medication preparations required), and epidural infusion bags. These changes have consequently led to changing infusion devices, and more standardised prescribing and staff education packages.

Concentrated Potassium Chloride has been removed from most areas in favour of premixed Saline/KCL solutions.


Whilst the project was not selected to go forward for the final judging, the judges felt it demonstrated a multi-pronged approach to improving medication safety, and felt that the committee driving the project would become instrumental in the rebuild project at Royston. The judges also found it commendable that the project group had used audit findings to identify the areas for improvement as well as monitoring the impact of the initiatives, whilst engaging with their patients, consultants, and staff on the improvements required.

Royston will continue in 2018 to focus on medication safety with the introduction of a new Medication Competency package for all staff involved in the medication process, a review of medication storage, and the implementation of a controlled drug disposal process that was first trialled at Wakefield Hospital.



Acurity Health Group

Evolution Healthcare Annual Quality Awards 2017

 Bowen Hospital took out the Supreme Winner Award for their Pre-Assessment Clinic project in the October 2017 Evolution Healthcare Annual Quality Awards in Wellington.

Judges commended the caliber of all projects entered including:

-  Royston's PACU Space Utilisation project;
-  Wakefield's Disposal of Liquid Controlled Drugs project; and
-  Waratah Hospital's (Australia) Outpatient Referral Base project.





© Photo courtesy of Xmedica



Left to Right: Brenda Bruning (Manager Safety, Quality and Risk); Karen Soderberg (Quality Coordinator); Dr Richard Grenfell (Board Member); Irene Woodhouse (RN, Project leader); Andrew Savage (Executive Chairman); Dorothy Shaw (GM Bowen); Ben Thynne (Managing Director); Penny Forte (Group Manager Quality – Australia); and Marushka Caldeiro (Guest Judge DAA Group).

New Consultants



Dr Andrew Linton

MB BCH BAO MRCP FRACP

Geriatrician/Internal Medicine
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Speciality

Geriatrics/Internal Medicine

I am a geriatrician consulting from the Bowen Specialist Consultation Suite. I have a holistic approach to care in older people and can provide an overview to managing complex health problems.

Training

Graduate of Queen's University Belfast and completed postgraduate training in Northern Ireland.

Special interests

My special interests include: complex geriatric assessment, dementia and memory assessment, stroke medicine, chronic pain, falls assessment and osteoporosis.



Miss Ineke Meredith

MBChB

Oncoplastic Breast and General Surgeon
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Speciality

Oncoplastic Breast Surgeon and General Surgeon

Training

In 2014, I became a fellow of the Royal Australasian College of Surgeons in General Surgery.

Special interests

I have post fellowship training in Breast Cancer, and Oncoplastic Breast Surgery including partial and whole breast reconstruction. I am a member of BreastSurgANZ through which I completed my Oncoplastic Breast fellowship after spending time in Auckland and Sydney. Subsequent to this, I spent time training with Dr Krishna Clough, world-renowned reconstructive breast surgeon and surgical oncologist, at the Paris Breast Centre. I continue to travel to Paris to maintain and develop new skills in a high volume international practice.

I continue to have general surgery in my practice and therefore also provide care for those requiring general surgical procedures such as hernia repair and cholecystectomy.

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