

# medicalmatters

Berkeley Vale Private Hospital  
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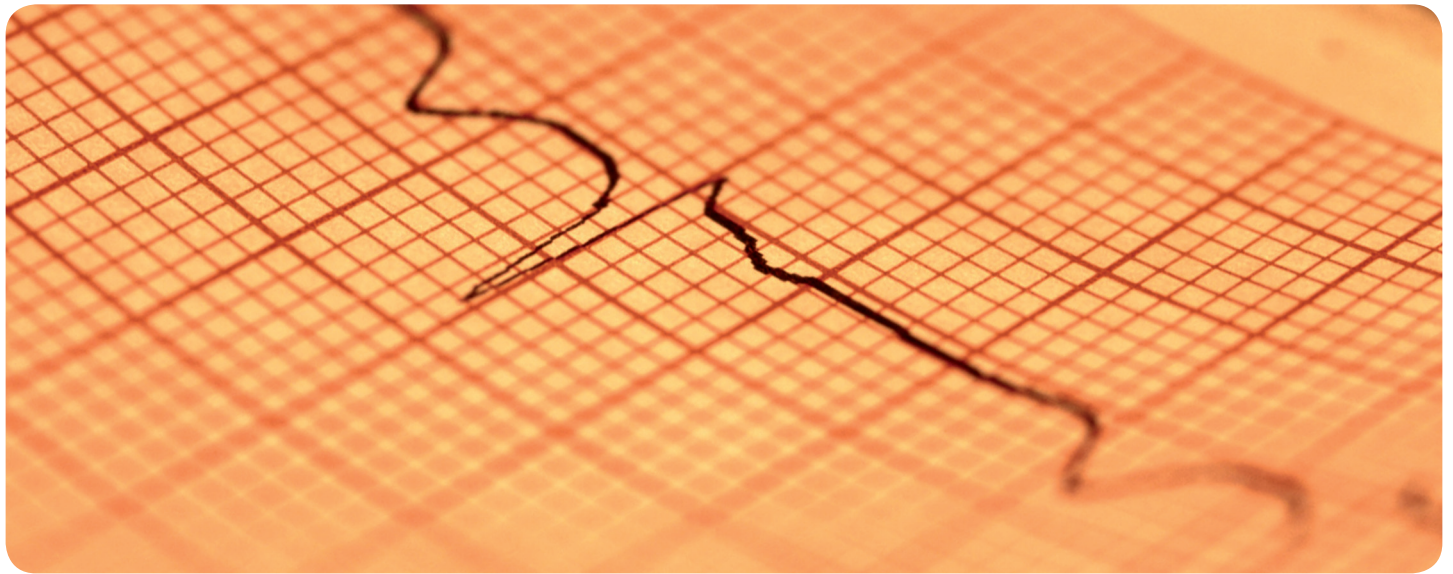
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BERKELEY VALE  
PRIVATE HOSPITAL

## Secondary prevention after stroke or TIA

**Article by:** Dr Jonathan Sturm, Berkeley Vale Private Hospital Visiting Medical Officer (Neurology)



### Introduction

Stroke is the third commonest cause of death after heart disease and cancer.

Approximately 10% of people suffering a stroke will die within one week, and by one year mortality is 30%. Stroke is a major cause of morbidity with around half of survivors being left with physical disability. Depression, and cognitive impairment are also common and even those without physical disability often report reduced quality of life.

The risk of stroke after TIA or mild ischaemic stroke is approximately 10% within 1 week and 18% in the first 3 months. Therefore a patient with TIA requires urgent assessment and institution of effective secondary prevention measures.

### Investigations

A CT brain scan is needed to identify haemorrhage, as haemorrhagic and ischaemic stroke cannot be reliably differentiated on the basis of signs and symptoms. MRI is more sensitive than CT for identifying ischaemia but is not

widely available in the emergency setting. Once haemorrhage is excluded a duplex ultrasound will identify carotid artery stenosis. CT or MR angiography can be done to confirm the results of the carotid ultrasound and to assess the intracranial arteries.

Cardiac evaluation is needed to assess sources of emboli from the heart or aortic arch. If the ECG shows sinus rhythm a 24 Holter monitor may demonstrate paroxysmal atrial fibrillation. Echocardiography is useful to identify intracardiac thrombus or a dilated cardiomyopathy. Fasting lipids and glucose establish baseline cholesterol levels and may pick up previously undiagnosed diabetes mellitus.

### Pharmacotherapies

Aspirin (50-300mg/day) reduces the risk of recurrent stroke, myocardial infarction and vascular death. Two large clinical trials (ESPS2, ESPRIT) have shown the combination of aspirin and dipyridamole to be more effective than aspirin. In the CAPRIE study Clopidigrel was modestly more effective than aspirin. In the recent MTACH study the

combination of aspirin and Clopidigrel was not significantly better than Clopidigrel alone in preventing recurrent stroke and was associated with a higher risk of bleeding. A "head to head" study comparing Clopidigrel and combination aspirin and dipyridamole in secondary stroke prevention is underway (PROFESS). Warfarin is more effective than antiplatelet agents for patients with ischaemic stroke or TIA and atrial fibrillation.

Blood pressure reduction after stroke or TIA reduces rates of further stroke and other vascular events. Benefits are seen in hypertensive and normotensive patients with either ischaemic stroke or intracerebral haemorrhage. Benefit has been shown with average reductions of approximately 10/5mmHg.

The recent SPARCL trial of atorvastatin 80mg versus placebo in 4731 ischaemic stroke or TIA patients with LDL cholesterol levels of 2.6 to 4.9 mmol per litre showed a significant reduction in stroke and major cardiovascular events in the statin group over a mean 5 year follow up.

*Continued...*

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## Non-pharmacological interventions

Smoking increases relative risk by about 2.5 and this returns to baseline risk after quitting for 5 years. Other changes likely to have benefit include optimisation of diabetes management, weight loss, regular exercise, moderate alcohol intake only, and reducing salt and saturated fats in the diet.

Carotid endarterectomy is more effective than medical therapy alone when there is symptomatic carotid stenosis of 70 to 99%. Benefits are greater when surgery is performed close to the time of the stroke or TIA. Results from trials of carotid stenting versus endarterectomy are conflicting, and at present stenting outside of clinical trials is recommended only when surgery is contraindicated due to comorbidity or technical difficulty.

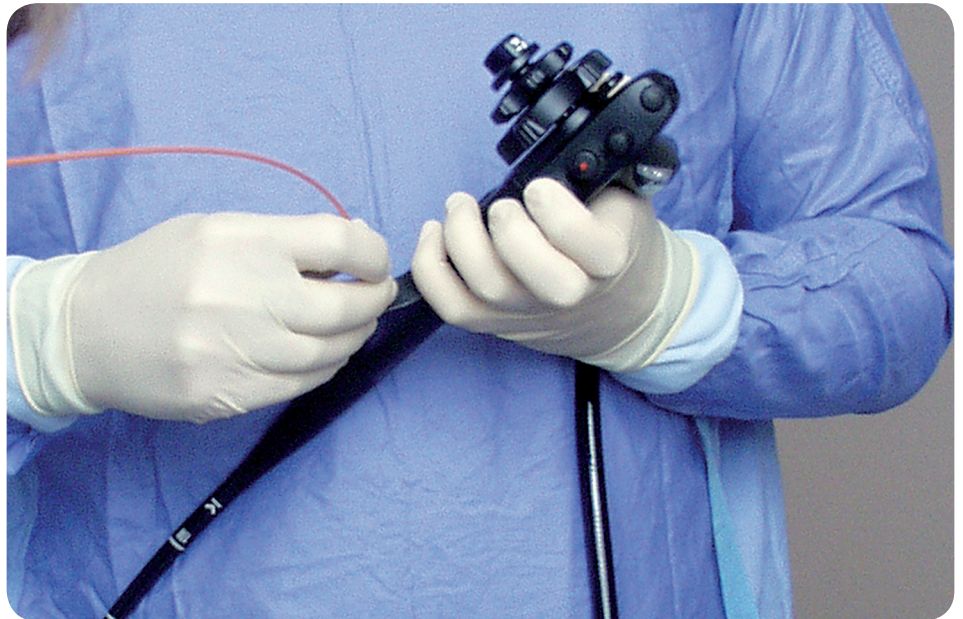
## Summary

Secondary prevention needs to be implemented early after mild stroke or TIA, as recurrence rates are high in the first week. In preventing recurrent ischaemic stroke there is strong evidence of the efficacy of antiplatelet and antihypertensive agents, statins, Warfarin for cardioembolic stroke, and carotid endarterectomy for symptomatic carotid stenosis of 70 to 99%. Blood pressure lowering is also effective for prevention of recurrent intracerebral haemorrhage.

## Further reading

1. The ESPRIT Study Group. Aspirin plus dipyridamole versus aspirin alone after cerebral ischaemia of arterial origin (ESPRIT): randomised controlled trial. *Lancet* 2006; 367 (9523): 1665-1673
2. Diener et al; on behalf of the MATCH investigators. Aspirin and Clopidigrel compared with Clopidigrel alone after recent ischaemic stroke or transient ischaemic attack in high-risk patients (MATCH): randomised, double-blind, placebo-controlled trial. *Lancet* 2004; 364 (9431): 331-337.
3. PROGRESS Collaborative Group. Randomised trial of a perindopril-based blood-pressure-lowering regimen among 6105 individuals with previous stroke or transient ischaemic attack. *Lancet* 2001; 358: 1033-41
4. The Stroke Prevention by Aggressive Reduction in Cholesterol Levels (SPARCL) Investigators. High-dose atorvastatin after stroke or transient ischaemic event. *NEJM* 2006; 355: 549-559
5. Medi C, Hankey GJ, Freedman SB. Atrial fibrillation. *MJA* 2007; 186: 197-202.

# Anaesthesia & Gastro



## MORBIDITY & MORTALITY

Gastrointestinal endoscopy is generally a safe procedure; however because of the very large numbers of procedures performed, even small complication rates can have a significant impact. During the 1980's, sedation-related adverse events were recognized. Recommendations for minimum standards of monitoring and oxygen administration have been introduced and regularly revised, but not adhered to in all cases, resulting in preventable complications.

Complication rates for endoscopy may be procedure or sedation-related, and have been reported in the range 0.2 – 0.35% within the past decade. Mortality rates attributable to endoscopy have been reported between 0.004% for outpatients and 0.01% including inpatient deaths. A report of 12 841 endoscopies in one open access endoscopy unit, revealed two complications attributed to sedation and seven to the procedure (including interventional endoscopies). In one recent audit of 33 854 patients who underwent upper gastrointestinal endoscopy, 153 (0.004%) died. Death was directly attributable to endoscopy in 13% of deceased patients. Eighty-eight percent of deceased patients received sedation, but an anaesthesiologist was only present in the 20% of patients who received general anaesthesia. Oxygen was administered to only 45% of patients, and whereas 90% of patients were monitored with

pulse oximetry, electrocardiography and blood pressure measurements were only performed in 24% of patients. Sedation-related morbidity occurred in 0.65% of cases and contributed to three out of 153 deaths (1.96%).

Another recent audit described a series of 9223 patients undergoing colonoscopy, in which 95% received intravenous sedation. However, oxygen saturation was not measured in 6%, and oxygen was not administered to 28% of sedated patients. Of particular note was the fact that, in ASA physical status 3 and 4 patients (patients with severe or life-threatening conditions), no intravenous access was obtained in 2.2% and no oxygen was administered in 11.4%. Sedation related complications (hypotension, Hypoxia, nausea and vomiting) resulting in the termination of the examination occurred in 2.9% of patients. Ten deaths related to the colonoscopy occurred within 30 days, five in patients with normal examinations. The authors also reported that, in many cases, patient comprehension and consent were inadequate.

Such studies demonstrate that safety and monitoring guidelines such as those recommended by the Australian and New Zealand College of Anaesthetists, (Professional document P59. Guidelines on conscious sedation for diagnostic, interventional medical and surgical procedures) are not uniformly applied in patients sedated for gastrointestinal endoscopy, and that robust processes and continued vigilance are essential.

# Gastrointestinal Endoscopy

**Article by:** Dr John Knox (Anaesthetic representative Berkeley Vale Private Hospital Medical Advisory Committee)

## SEDATION FOR ENDOSCOPY

Gastrointestinal endoscopy is one of the most common interventional medical procedures performed throughout the world. With the increasing safety of endoscopy, both upper and lower gastrointestinal endoscopy are being advocated as first-line screening choices. This would result in approximately 15% of the United States population undergoing upper gastrointestinal endoscopy per year. Sedation is usually administered to facilitate endoscopy; however, the techniques of sedation vary considerably between endoscopists, between hospitals and between countries. The administration of sedation is performed by anaesthetists or other practitioners, and such novel methods as patient-controlled sedation (PCS) are also being employed. Unsedated endoscopy is being investigated for its role in selected cases, but in the vast majority of cases, remains an unattractive alternative.

### Definition of sedation/ anaesthesia

The American Society for Gastrointestinal Endoscopy, The American Society of Anaesthesiologists (ASA), and other professional societies around the world have promulgated guidelines for sedation for endoscopy that include similar definitions of sedation. Hypnotic drug effects are described along a continuum from minimal sedation to general anaesthesia, with 'moderate' sedation being considered the optimal depth of sedation for endoscopy in most cases. Conscious sedation generally provides adequate patient comfort and amnesia, spontaneously maintained cardio respiratory function and sustained communication between patient and clinicians. However, wide variations in sedation depth exist, depending on the geographical location and routines of practice, the training of practitioners administering sedation, and the medical and psychological characteristics of each patient.

### Sedation methods

Benzodiazepine-opioid combinations are still widely used for sedation during endoscopy, and these combinations are relatively safe over a wide range of therapeutic concentrations, and are generally effective

	Minimal sedation	Moderate sedation	Deep sedation	General anaesthesia
Responsiveness	Normal to verbal stimulation	Purposeful response to verbal or tactile stimulation	Purposeful response after repeated or painful stimulation	Unrousable even with painful stimulation
Airway	Unaffected	No intervention required	Intervention may be required	Intervention often required
Spontaneous ventilation	Unaffected	Adequate	May be inadequate	Frequently inadequate
Cardiovascular function	Unaffected	Usually maintained	Usually maintained	May be impaired

Modified from American Society of Anaesthesiologists

at alleviating anxiety and discomfort and producing amnesia. The doses administered vary considerably (e.g. midazolam 0.5 – 20mg, mean 5mg. and benzodiazepine reversal is uncommon (3.4%). However, problems and dangers of benzodiazepine – opioid sedation continue such as over sedation and other sedation-related adverse events.

Propofol has been administered for sedation by anaesthetists for 20 years and has the advantages of greater titratability and a shorter duration of action than the benzodiazepines. It has been shown to provide superior patient and endoscopist satisfaction, with equivalent safety when compared with midazolam – opioid sedation. The narrow therapeutic window has meant that the use of propofol has been restricted to anaesthetists. However, there has recently been growing interest in non-anaesthetist-administered propofol sedation.

Other approaches to propofol administration have been investigated, such as the use of manually controlled or target-controlled infusions. However, the focus has recently shifted to PCS, with no deterioration in patient or endoscopist satisfaction and clinically insignificant alterations in vital signs. However, over sedation and inadequate sedation can still occur.

Remifentanil has been investigated as a sole sedation agent, while propofol and remifentanil infusions have been shown to provide adequate sedation and more rapid recovery than propofol/Fentanyl anaesthesia for endoscopy. However remifentanil alone, leads to greater desaturation and more nausea and vomiting after the procedure.

Depth of anaesthesia monitors allow quantification of the degree of sedation. Significant temporal associations between BIS and the depth of sedation, indicate that a BIS value of approximately 80 correlates with adequate conscious sedation. BIS monitoring as an adjunct to propofol sedation routinely reach values less than 60, which are generally accepted to indicate general anaesthesia and not sedation. At these levels patients are unresponsive to command and mild prodding. BIS-monitored patients have fewer unplanned interventions and such interventions are more likely to occur because the patient is too light and uncomfortable rather than too deep and requiring airway manipulations than in non-BIS patients. They also have faster recovery and less drug administration but with equal satisfaction in both groups.

The above is an abridged version of an excellent review article. " Leslie, Kate a,b; Stonell, Christopher A a Anaesthesia and sedation for gastrointestinal endoscopy. Current Opinion in Anaesthesiology. 18 (4); 431-436, August 2005". The intent of the above piece of writing is purely of a general informative nature. It is highly recommended that before any reliance is placed on anything contained within that the original article be consulted.

# Community Health Matters

Recently Berkeley Vale Private Hospital presented the first in a series of four free Community Health Information sessions to be held over the next twelve month period.

The first session, held at Mingara Convention Centre, on Thursday, 31st May, 2007 was held in conjunction with two of our accredited orthopaedic surgeons, Dr John Limbers and Dr Simon Hutabarat

A total of forty five (45) members of the community attended the session to listen to both surgeons discuss "Arthritis – Recent Advances in Treatment" and "Hip and Knee Resurfacing – Recent Advances".

The workshop was very interactive, with numerous questions being directed to the surgeons. Evaluation of the session was overall very positive, with feedback from the community requesting further of these sessions. Berkeley Vale Private is currently planning to hold the next Community Health Information Session in August, 2007 – titles of session to revolve around Stroke Prevention.

If your practice, or you, are aware of a specific community group that may like to know more about the services the hospital is able to provide, please contact Joy Croake, Personal Assistant on (02) 4389 1970.



Dr John Limbers



Dr Simon Hutabarat

## Gp education evening

Join Berkeley Vale Private Hospital on hosting the seventh (7th) GP Education Evening to be held of the 2005 – 2007 triennium



### MAKE NO BONES ABOUT IT

#### An Orthopaedic Update

Berkeley Vale Private is pleased to invite you to participate in our first GP education program and Active Learning Module for 2007, Make No Bones About It. (ALM consists of 3 evening sessions including the completion of a Pre-Disposing and Reflective Activity), otherwise Category 2, 2 points per hour apply.

The aim of this seminar is to provide General Practitioners with an overview of new orthopaedic initiatives and provide an opportunity to participate/question clinical skills techniques through six (6) workstations

#### Program:

6:30pm Registration

6:45pm Welcome and Introduction - Dinner

7:15pm Presentations:

- Dr Jim Hasn – Trochanteric bursitis and hip abductor tendinopathy
- Dr John Morton – Loose bodies and patellofemoral OA
- Dr Simon Hutabarat – Wrist Replacement
- Dr John Limbers – Flat feet in all ages
- Dr Stuart Gray – Meniscal tears through the ages

8:00pm Workstations

(with above orthopaedic surgeons and others who will be in attendance) on above topics using models, x-ray interpretation and injection techniques.

Please bring along your own case notes and xrays/ultrasound reports to discuss with our orthopaedic surgeons.

9:30pm Questions/Summation

9:45pm Evaluation and Close

When: Thursday, 19th July, 2007

Where: Mingara Recreation Club Convention Centre  
Mingara Drive, Tumby Umbi NSW 2261

RSVP: Tuesday, 17th July, 2007 to Michelle Turner (Quality coordinator) or Joy Croake (Personal Assistant) on (02) 4389 1970

## Berkeley Vale Private ranks 1st in national patient satisfaction survey



Berkeley Vale Private has ranked number one in a national patient satisfactions survey report conducted independently with patients from 45 private hospitals across the country.

The survey conducted by an external surveying group, Press Ganey Associates, on behalf of health fund HCF, measured patient satisfaction with the facility in terms of admission and discharge processes, accommodation, food, nursing and doctor care.

Berkeley Vale Private Hospital ranked top or close to top hospital in all these areas and ranked 1st out of the 45 hospitals surveyed in the overall assessment.

HCF, which undertakes a number of regular activities to assist hospitals in improving care and service for members including a regular patient satisfaction survey, has congratulated Berkeley Vale Private (part of the Ramsay Health Care group of hospitals) on the excellent results achieved.