

- allow the practitioner to self-define their formulary within their areas of demonstrated competence (this is the same as the UK non-medical prescribing model)
- define a range of formularies for various specialty areas, for example cardiology, respiratory, continence care, diabetes.

Training programs will need to reflect the scope of practice and whatever formulary restrictions are decided. This will be further influenced by the fact that there is currently no nationally consistent or agreed definition of what constitutes 'prescribing', or a framework of competencies, to guide what would be included in training programs and assessment. Currently, non-medical prescribers have a variety of profession-specific prescribing courses. It should be possible to develop a generic, profession-independent, prescribing course. Profession-specific modules could provide the basis of the prescribing course with the generic skill set common to all of them. This would ensure a consistent skill set across all non-medical prescribers. However, prescribing competencies would need to be developed to facilitate this process in Australia as there are currently no nationally defined prescribing competencies for any Australian prescriber, medical or non-medical.

Optometrists currently have a prescribing 'retro-fit' process that could be applied for any non-medical profession seeking prescribing rights. A 'top-up' course is available for current optometrists wanting to upgrade their qualification, and the entry level optometry course has been amended to ensure all future graduates would be automatically qualified as a prescriber. It is possible that other qualified non-medical prescribers (for example nurse practitioners) may also be required to undertake an upgrade course within a given time frame if the competency and training standards are raised above their current level. Many gaps exist in current education provision and this requires further and systematic development on a multidisciplinary basis. Profession-specific and profession-independent programs are required to generate future

non-medical prescribers. These programs will be dependent on the non-medical prescribing models implemented in Australia. Patient safety must be assured through ongoing review processes, for example as pharmacists currently do for medical prescribers. However, it is also important to allow health professionals to practise as health professionals and be personally accountable. The best prescriber for a given patient should depend on their skill set, not on which professional hat they wear.

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Conflict of interest: none declared

Letters

The Editorial Executive Committee welcomes letters, which should be less than 250 words. Before a decision to publish is made, letters which refer to a published article may be sent to the author for a response. Any letter may be sent to an expert for comment. Letters are usually published together with their responses or comments in the same issue. The Editorial Executive Committee screens out discourteous, inaccurate or libellous statements and sub-edits letters before publication. The Committee's decision on publication is final.

Point-of-care testing

Editor, – We read Associate Professor Shephard's article with interest (*Aust Prescr* 2010;33:6–9), and wish to highlight emerging uses for point-of-care INR monitors in Australia. These have been trialled in various settings including:

- rural general practices¹ and community pharmacies², to improve warfarin safety in patients with limited access to pathology services

- patients' homes, to facilitate self-monitoring via a standardised training program^{3*} and as a part of a multi-faceted post-discharge service provided by home medicines review accredited pharmacists^{4*}
- within residential care facilities.⁵

These projects, conducted by the Unit for Medication Outcomes Research and Education (UMORE), have improved

patient outcomes and produced excellent stakeholder satisfaction. For example, the post-discharge service was recently associated with reduced rates of warfarin-related adverse events up to 90 days post-discharge.⁴

Patient self-monitoring is well established in Europe, where it is associated with improved anticoagulation control, enhanced patient convenience and adherence, fewer complications and improved survival in suitable patients.⁶ Currently, only a small proportion of Australian patients taking warfarin perform self-monitoring, a situation that could be improved by a national training, quality assurance and support program.

We believe that appropriate use of point-of-care INR monitors outside traditional settings can potentially improve patients' quality of life and health outcomes and, as such, should be actively promoted and government-funded.

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* These programs were funded by the Department of Health and Ageing as part of the Fourth Community Pharmacy Agreement managed by the Pharmacy Guild of Australia

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Dental antibiotics

Editor, – I note the comments by Associate Professor Michael McCullough from the Australian Dental Association that antibiotics are not needed for the majority of dental infections (*Aust Prescr* 2010;33:71). However, access to public dentistry is limited and the wait for private dentists' appointments is often many weeks. Dental receptionists may tell patients who ring up for an appointment with a painful dental condition to go to the local doctor to get antibiotics. They often say 'because the dentist won't treat you unless you are on antibiotics'. Faced with a patient with a long and painful wait to see a dentist and a belief they have to be on antibiotics, it is impossible to not give a prescription. Why doesn't the dentist organise the antibiotics which 'must' be given?

Many of these patients may improve temporarily with anti-inflammatory drugs and perhaps the antibiotics. Then they decide they cannot afford to visit the dentist (if they were ever given an appointment at all).

Janet Watterson
General Practitioner
Pambula Medical Centre
Pambula, NSW

Associate Professor Michael McCullough, the author of the dental note, comments:

Dr Watterson's letter has prompted much discussion and much consternation amongst the members of the Dental Therapeutics Committee of the Australian Dental Association. She raises multiple concerns, including the under-resourced nature of public dentistry, the unprofessional activity of private dentists who do not offer prompt emergency appointments for their patients in pain, patients' expectations that antibiotics will cure toothache and their reluctance to seek appropriate definitive dental treatment, and the perceived high cost of dental treatment and the shortages of dentists, particularly in rural areas.

The vast majority of dental pain can be alleviated successfully by dental treatment without the need for systemic antibiotics. In many instances prescribing antibiotics could be seen as inappropriate. This has been one of the fundamental principles underlying dental education for the past several decades and permeates the recent Therapeutic Guidelines: Oral and Dental book made available to every member of the Australian Dental Association and to dental students. There are rare exceptions when a patient should take antibiotics before dental treatment and in these circumstances the antibiotics usually need to be taken immediately before treatment. Dentists are very capable of organising these prophylactic antibiotics. It would be inappropriate to rely on our medical colleagues to prescribe antibiotics many days – or even worse, weeks – before dental treatment without a dentist first examining and diagnosing the patient's dental problem.

Although a patient's pain may improve temporarily with anti-inflammatory drugs and antibiotics, this is not definitive treatment and it has the potential to lead to both the development of antibiotic resistance and a disastrous outcome for the patient. Every large tertiary hospital in Australia has cases requiring hospitalisation for extensive, potentially lethal, head and neck infections of dental origin. One survey reported 44 patients in one calendar year with 40% of these patients requiring intubation, high dependency or intensive care and prolonged hospitalisation. The majority of these patients had previously taken one or more courses of antibiotics to unsuccessfully treat their dental pain.¹

The perception that dentists will not treat patients unless they are taking a course of antibiotics is fundamentally wrong. Any dentist who believes this, or allows their staff to portray this attitude, needs to re-think their practice and attend further continuing education courses. Moreover, under the Dental Board of Australia's recently released Guidelines for Mandatory Notifications² it is stated that: '...the National Law defines 'notifiable conduct' as where a practitioner has ... placed the public at risk of harm because the practitioner has practised the profession in a way that constitutes a significant departure from accepted professional standards'. It could well be argued that this behaviour is a significant departure from accepted professional standards.

The responsibility for the treatment of dental pain should lie entirely with the dentists. However, in reality there are large numbers of patients who seek medical care for their dental pain. Developing a relationship between local doctors and dentists and creating a dialogue such that patients in dental pain presenting to doctors can be helped to make appropriate emergency appointments with the local dentists will go a long way towards decreasing inappropriate treatment. Furthermore, dentists should also provide feedback to doctors on the treatment provided, as well as information regarding any patients who fail to attend appointments and delay seeking treatment. Such a dialogue would be in the best interests of the patients and would perhaps go a long way towards altering perceptions regarding the shortages of availability of dentists and the affordability of dental treatment. A very positive suggestion would be for local doctors and dentists to meet to address the problems. The Australian Dental Association via its state branches and local groups would probably be very pleased to facilitate such meetings.

To alleviate the shortage of dentists, there has been a significant increase in dental schools in Australia (from five in 2005 to the current number of nine). All new graduating dentists will be taught that, in the vast majority of patients, dental pain can be treated with dental treatment, without the need for either pre-treatment, or post-treatment antibiotics.

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Multiresistant organisms at the front line

Editor, – I read the dental note (*Aust Prescr* 2010;33:71) about not using amoxycillin as the first drug of choice for oral infection to reduce the prevalence of multiresistant bacteria, for example life-threatening *Streptococcus pneumoniae*.

I am a dentist and we have always been told that amoxycillin is the best and safest antimicrobial when encountering oral infection. So what will be the next best thing?

Shahriar Sanati
Dentist
Tuggerah, NSW

Associate Professor Michael McCullough, Chair, Therapeutics Committee, Australian Dental Association, comments:

It is true that for many years dentists were told that amoxycillin was the best and safest antibiotic for most dental infections. However, this idea has been considerably challenged over the past several decades and has led to the current concept that penicillin is the best choice as first option. These concepts are clearly outlined in the Therapeutic Guidelines: Oral and Dental.

Unfortunately, there is probably not going to be a 'next best thing', so we need to use our currently available antimicrobial medications judiciously.

Bisphosphonates

Editor, – Bisphosphonates are increasingly being prescribed for a number of clinical conditions. In the dental literature there have been a number of red flags raised, notably by Professor A Goss (*Aust Prescr* 2007;30:96–7), concerning the incidence of osteonecrosis of the jaw and bisphosphonate use, particularly when administered intravenously.

Would it not be timely for our medical colleagues to advise patients of this risk so that patients will, when they are taking bisphosphonates, inform their dental practitioners.

In my practice we routinely ask patients at each visit regarding all medications being taken, by prescription and otherwise. However, even with that regimen a number of patients have not bothered to mention that they are taking a bisphosphonate, as they did not think it mattered. It is too often the case that as far as patients are concerned medicines prescribed by their doctor will have no impact upon any dental care which they might require.

This is of course not the case and for this reason I appeal to our medical colleagues to be proactive in this regard.

JF Walsh
Dental Surgeon
Kojonup Dental Clinic
Kojonup, WA

New oral anticoagulants

Editor, – The article by Professor Gallus (Aust Prescr 2010;33:42–7) discussed the clinical applications of the new oral anticoagulants – rivaroxaban and dabigatran. In those patients who had had hip or knee replacements, the new drugs were started either 6–8 hours after wound closure or 1–4 hours after surgery. Would Professor Gallus kindly give his advice to orthopaedic surgeons for those patients who have had a previous deep vein thrombosis or who possess one of the inherited thrombotic tendencies such as Factor V Leiden mutation.

JL Raven
Clinical haematologist and Consultant physician
Waikiki Private Hospital
Waikiki, WA

Professor Alex Gallus, author of the article, comments:

Patients with a previous deep vein thrombosis or pulmonary embolism pose special problems for surgeons because of their increased risk of a postoperative recurrence. After recent venous thromboembolism, elective surgery should be delayed for at least 3–6 months to permit the initially high risk for a recurrence to subside. Beyond 3–6 months, individual practice varies, since there is little good evidence to guide the clinician.

One common approach is to add intermittent pneumatic leg compression to low molecular weight heparin prophylaxis, and start warfarin once the postoperative bleeding risk allows. The duration of warfarin treatment would then depend on whether the patient's history justifies long-term therapy. It is not yet known if prophylactic doses of the new oral anticoagulants can replace warfarin for the secondary prevention of venous thromboembolism. In the dabigatran and rivaroxaban studies of prophylaxis after joint replacement, 2–4% of patients reported a history of venous thrombosis. This was too few for meaningful subgroup analyses of relative efficacy.

There is substantial evidence that heterozygosity for Factor V Leiden or the G20210A prothrombin gene mutation, without a personal history of thromboembolism, does not raise the risk of postoperative thrombosis above the average. In these patients, standard prophylactic dosing regimens should be sufficient. Risk associated with homozygosity or double heterozygosity, however, is well above average and would need more intense and longer prophylaxis.

Safety of heparins for venous thromboembolism prophylaxis

Editor, – Further to the article by the NSW Therapeutic Advisory Group (Aust Prescr 2009;32:108–12), we would like to draw your attention to the recently updated position

statement 'Safe use of heparins and oral anticoagulants for venous thromboembolism prophylaxis in adults' (at www.nswtag.org.au).

The position statement aligns with the National Health and Medical Research Council 2009 Clinical Practice Guideline for the prevention of venous thromboembolism in patients admitted to Australian hospitals, and includes updated information on oral anticoagulants approved for venous thromboembolism prophylaxis and assessing renal function.

With growing Australian and international encouragement for instituting venous thromboembolism prophylaxis systems in hospitals, it can be expected that an increased number of inpatients will be prescribed venous thromboembolism prophylaxis.

However, heparins (even in a low dose) and oral anticoagulants carry a risk of causing bleeding from any site, especially in patients at increased risk of bleeding from other causes such as concurrent administration of some medicines, some clinical conditions and some surgical and anaesthetic procedures. Careful clinical management of patients at risk of bleeding is required to minimise the risk and severity of bleeding related to venous thromboembolism prophylaxis.

Six steps for safe provision of venous thromboembolism prophylaxis are outlined:

- Step 1: Identify patients requiring venous thromboembolism prophylaxis
- Step 2: Assess for bleeding risk and contraindications
- Step 3: Assess for special precautions
 - 3.1 Renal impairment
 - 3.2 Concomitant medicines
 - 3.3 Determine if neuraxial (spinal/epidural) anaesthesia is planned
 - 3.4 Obesity
- Step 4: Select the most appropriate heparin or anticoagulant agent
- Step 5: Determine appropriate timing of venous thromboembolism prophylaxis
- Step 6: Monitor for adverse events.

While this document aims to guide clinical practice, it is not intended to replace clinician judgement. Many decisions for venous thromboembolism prophylaxis need to be made on an individual patient basis. These are highlighted clearly in the text.

Paul Seale
Chair

Gillian Campbell
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