Herpes serology is not an appropriate screening test in asymptomatic patients and does not accurately confirm whether the person is infected or is a transmission risk to others from asymptomatic shedding. Clinicians also need to consider whether test results will influence treatment or outcomes because, if they do not, then testing is a waste of finite health resources and is not indicated.

Herpes serology tests only have good sensitivity and specificity in high prevalence populations. However, selective use of herpes serological tests may be justified for particular groups, such as those at high risk for STIs and human immunodeficiency virus (HIV) infection who are motivated to reduce their sexual risk behaviour; HIV-infected patients; patients with sexual partners with genital herpes; and in cases where a woman appears to have a first episode of herpes simplex virus (HSV) during pregnancy.

This recommendation is endorsed by The Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG)

There is no role for chlamydia serology as a screening test as antibodies elicited during infection are long-lived, meaning a positive antibody test will not distinguish between a previous and a current infection and are non-specific for genital serovars. Chlamydia serology may be useful in specific circumstances, for example, investigating atypical pneumonia in babies or in identifying late stage Lymphogranuloma Venereum (LGV) infection.

Laboratory tests based on nucleic acid amplification (NAAT) technologies remain the first choice for diagnosis of chlamydial infections during pregnancy and in other settings. NAAT testing for identifying LGV serovars of Chlamydia trachomatis has superseded the use of serology for diagnosis but is only available in some specialist settings.

This recommendation is endorsed by The Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG)
3. **Do not treat recurrent or persistent symptoms of vulvovaginal candidiasis (thrush) with topical and oral anti-fungal agents without further clinical and microbiological assessment**

While topical and oral anti-fungal agents are the recommended treatment for candidiasis, an adequate clinical and microbiological assessment should be undertaken before they are prescribed or self-administered by patients for recurrent or persistent symptoms of vulvovaginal candidiasis.

It is important to rule out other causes of vulvovaginal symptoms such as bacterial vaginosis or genital herpes first so that the other infections are not left untreated. Moreover, inappropriate use of antifungal drugs can lead to increased fungal resistance, especially in non-albicans species of candida.

*This recommendation is endorsed by The Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG)*

4. **Do not test for ureaplasma species in asymptomatic patients**

Ureaplasma species are part of the normal genital microbiota and there are typically high rates of colonisation of the organism in sexually active adults. Testing or screening for genital infection with ureaplasma species is not recommended outside specialist or research settings as they have not been established as a cause of lower genital tract disease.

*This recommendation is endorsed by The Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG)*

5. **Reconsider the use of nucleic acid amplification testing for gonorrhoea in low-prevalence (i.e. <1% prevalence) populations and people who do not belong to a higher risk group**

The introduction of a duplex testing item into the MBS for nucleic acid amplification testing (NAAT) of chlamydia and gonorrhoea has resulted in laboratories performing this duplex test even if a test for only one organism was requested. Use of NAATs as a screening test for gonorrhoea in low-prevalence populations is not advised due to their low positive predictive value. However, an adequate sexual history needs to be taken in all cases to allow for the identification of higher risk groups within the population including men who have sex with men (MSM), the Aboriginal and Torres Strait Islander population, heterosexuals who travel overseas and people with multiple sexual partners. There are potential harms associated with false positive test results and incorrect diagnosis of gonococcal infections. Therefore it is recommended that use of NAAT for gonorrhoea should be reconsidered in low prevalence (i.e. <1% prevalence) populations.

*This recommendation is endorsed by The Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG)*
SUPPORTING EVIDENCE


HOW THIS LIST WAS MADE

With the assistance of the Royal Australasian College of Physicians, the Australasian Chapter of Sexual Health Medicine (AChSHM) Council produced and distributed to its membership an online survey. The survey listed 5 examples of clinical practices in sexual health medicine which may be overused, inappropriate or of limited effectiveness in a given clinical context.

Members were asked to comment on these examples and to suggest other low-value practices which may be a sizeable issue in the specialty. Based on the feedback, 8 items were identified for further investigation by AChSHM Council through an evidence review. This resulted in the final list of 5 recommendations which were endorsed by the Council on December 15, 2015.

Current as at: October 2016
1. **Avoid requesting computed tomography (CT) imaging of kidneys, ureters and bladder (KUB) in otherwise healthy emergency department patients, age <50 years, with a known history of kidney stones, presenting with symptoms and signs consistent with uncomplicated renal colic.**

   Acute flank pain due to suspected renal colic is a common clinical presentation in the emergency department. While a CT-KUB allows a rapid, contrast-free diagnosis of kidney stones, it is a high ionizing-radiation technique. Younger patients with typical renal colic pain that remits spontaneously, or with analgesia, and have no features on history, examination or laboratory investigations that suggest complicated renal stones or a serious alternate diagnosis, can be managed without repeated imaging. Concerning features include fever, features of urinary tract infection, lack of haematuria, ongoing high analgesia requirements, or palpable abdominal mass.

2. **Avoid coagulation studies in emergency department patients unless there is a clearly defined specific clinical indication, such as for monitoring of anticoagulants, in patients with suspected severe liver disease, coagulopathy, or in the assessment of snakebite envenomation.*

   Abnormal coagulation test results in conditions such as acute coronary syndrome can usually be predicted by history, and they rarely affect patient management. Routine coagulation studies in the emergency department therefore represent a substantial added cost, with no benefit to patients. Coagulation studies should be performed based on a history of warfarin or heparin use, or a history of severe liver disease. Please refer to the joint ACEM/Royal Australian College of Pathologists Guideline on Pathology Testing in the Emergency Department, for further guidance on appropriate pathology test requesting in emergency departments.

*Point of care testing (POCT) devices are unreliable in assessment of snakebite envenomation.
Avoid blood cultures in patients who are not systemically septic, have a clear source of infection and in whom a direct specimen for culture (e.g. urine, wound swab, sputum, cerebrospinal fluid, or joint aspirate) is possible.

Blood cultures taken in an emergency department do not add more information that would aid clinical management; they also represent a significant cost. The rate of false positives in blood cultures has been reported as approximately 50% and other, more direct tests have been shown to have a markedly higher yield i.e. a diagnostic procedure that often results in a definitive diagnosis. Please refer to the joint ACEM/Royal Australian College of Pathologists Guideline on Pathology Testing in the Emergency Department, for further guidance on appropriate pathology test requesting in emergency departments.

For emergency department patients approaching end-of-life, ensure clinicians, patients and families have a common understanding of the goals of care.

The emergency department is a challenging environment for end-of-life care, presenting ethical and quality of life issues. Research indicates that over 50% of Australians who die an ‘anticipated’ or ‘expected’ death, will die in acute hospitals, even though the majority approaching end-of-life wish to die at home. In this context, clinicians, patients and their families should work together to ensure they have a common understanding of the goals of care. Values and wishes around medical treatment should be documented. Monitoring and investigations should be appropriate. Clinicians should advocate for the patient by initiating discussion about end-of-life care with inpatient clinicians and community health professionals. When possible, arrange for end-of-life patients to be transferred to a palliative care facility to avoid admission to acute wards.

Don’t request imaging of the cervical spine in trauma patients, unless indicated by a validated clinical decision rule.

Cervical spine imaging of every trauma patient is costly and results in significant radiation exposure to a large number of patients, very few of whom will have a spinal column injury. Clinical decision rules have been developed that identify patients who can be safely managed without imaging. These rules include the Canadian C-Spine Rule or Nexus Low Risk Criteria. The Canadian C-Spine Rule provides higher specificity and lower imaging requirements, and should be used if possible.

*This is a joint recommendation with The Royal Australian and New Zealand College of Radiologists (RANZCR)*
Most head injuries presenting to emergency departments will be minor and do not require immediate neurosurgical intervention or inpatient care. Mild head injury patients can be risk stratified into ‘low’ or ‘high’ risk groups based on the presence or absence of identified clinical risk factors. Current validated clinical decision rules include the Canadian CT Head Rule (for adults) or the PECARN (Paediatric Emergency Care Applied Research Network) Tool (for children). These rules can safely identify patients who can be discharged home, without CT scanning.

This is a joint recommendation with The Royal Australian and New Zealand College of Radiologists (RANZCR)
SUPPORTING EVIDENCE


Segall J, Dzik WH. Paucity of studies to support that abnormal coagulation test results predict bleeding in the setting of invasive procedures: an evidence based review. Transfusion. 2005; 45(9): 1413-25.


Choosing Wisely Australia

About Choosing Wisely Australia
Choosing Wisely Australia® is enabling clinicians, consumers and healthcare stakeholders to start important conversations about tests, treatments and procedures where evidence shows they provide no benefit and in some cases, lead to harm. This initiative is being led by Australia’s medical colleges and societies and is facilitated by NPS MedicineWise.

About Australasian College for Emergency Medicine (ACEM)
ACEM is the not-for-profit organisation responsible for training emergency physicians and advancing professional standards in emergency medicine in Australia and New Zealand. As Australasia’s peak professional organisation for emergency medicine, ACEM has a significant interest in ensuring the highest standards of medical care for patients are maintained in emergency departments.

About NPS MedicineWise
Independent, not-for-profit and evidence based, NPS MedicineWise enables better decisions about medicines and medical tests. Visit www.nps.org.au

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HOW THIS LIST WAS MADE
A Choosing Wisely Working Group of 9 emergency physicians identified an initial list of 10 potential items. All ACEM members were able to provide feedback on these items and suggest other issues for consideration. This feedback informed Working Group refinement of the initial list into 8 recommendations. Evidence reviews were then completed for each recommendation. These evidence reviews, frequency of use in ED, risks/benefit to patient and cost were used as criteria for Working Group member voting in order to determine the final 5 recommendations. These recommendations have been endorsed by ACEM’s Council of Advocacy, Practice and Partnerships. Following identification of two common recommendations with the Royal Australian and New Zealand College of Radiologists, it was agreed by both Colleges to jointly present these items.

Last printed: April 2015

5.


6.

THINGS CLINICIANS AND CONSUMERS SHOULD QUESTION

Do not request low back X-rays or other forms of low back imaging as part of a routine preplacement medical examination

The purpose of preplacement medical examinations should be to determine an individual’s ability to perform the job. However, such examinations are generally not recommended unless there is a reason for using them to assess some specific occupational risks. Even if a routine preplacement medical examination is justified, low back X-rays and other imaging are not useful preplacement tests to undertake because they have not been found to predict future injuries. These tests also result in unnecessary radiation exposure and age-related, asymptomatic, clinically unimportant findings may trigger further imaging evaluation and/or patient anxiety.

Do not order X-rays or other imaging for acute non-specific low back pain, unless there are red flags or other clinical reasons to suspect serious spinal pathology

As little as two per cent of low back pain cases represent potentially serious conditions requiring surgical or medical intervention. The majority of acute low back pain episodes are benign, self-limiting cases that do not warrant any X-ray or imaging studies. Indeed, unnecessary X-rays and imaging can be harmful due to the potential adverse health effects associated with radiation exposure, incidental findings that trigger more imaging to be performed, and description of asymptomatic, age-related changes in the spine that can result in inappropriate patient anxiety. Moreover, the attribution of symptoms to unrelated incidental findings can then lead to unnecessary surgery.

It is therefore recommended that X-rays and other imaging of the lower back should be performed only if there are red flags such as: a history of significant trauma, cauda equina syndrome, symptoms suggestive of a tumour or infection (fever, weight loss, and a history of cancer), and steroid use. Also, plain radiography is insufficiently sensitive and specific pain associated with these risk factors with the exception of suspected ‘low energy’ fractures e.g. low-height falls in the elderly or osteoporotic. In these cases, plain radiography can be useful to determine whether a fracture is present and inform investigation and treatment of patients at risk of osteoporosis to prevent further fragility fractures.

To find out more or become involved:
Visit www.choosingwisely.org.au or follow twitter.com/ChooseWiselyAU or email choosingwisely@nps.org.au
3 Do not prescribe opioids for the treatment of acute or chronic pain without assessing the patient’s clinical condition, potential side effects, alternative analgesic options, work status, and capacity to perform safety-critical activities such as driving a motor vehicle.

Studies demonstrate that prescribing opioids for workers suffering back injuries is correlated with significantly longer periods of disability and a higher risk of surgery. Some of these relationships may be attributable to the higher likelihood of opiate prescription for people with more serious injuries. However, other studies have documented that long-term opioid use for chronic pain is associated with serious risks such as abuse and dependence, overdose, myocardial infarction, and motor vehicle crashes. These risks may outweigh the benefits given there is also insufficient evidence on whether the pain relief provided by opioids is sustained in the long term.

The use of opioids can result in euphoria, drowsiness or inability to concentrate, so using opioids is incompatible with many jobs. Thus, opioid prescription for the treatment of acute or chronic pain should not be initiated without first assessing the patient’s clinical condition, potential side effects, alternative analgesic options, work status, and their capacity to perform safety-critical activities.

4 Do not certify a patient as totally unfit for work unless the work absence is clinically necessary and the patient is unfit for suitable alternative or restricted duties.

While some medical conditions necessitate time off work, for example, a person recovering from surgery or experiencing debilitating pain, with many medical conditions there is a substantial discretionary element to work absence. So some patients may be able to participate in work if employers make appropriate accommodations.

There is substantial evidence to support a positive link between work and (physical, mental and social) health, as well as evidence that absence from work contributes to declining health, slower recovery times, and longer duration of disability. The certification of work absences due to medically discretionary injuries and illnesses should therefore be discouraged. When asked to provide an opinion on functional abilities to employers or insurers, medical practitioners’ focus should be on abilities; restrictions should be objective, specific, and listed only when medically indicated.
Asbestosis usually takes years to decades to develop after the initial exposure and chest X-rays cannot immediately indicate whether or not asbestos fibres have been inhaled. Given the long latency period, screening and early detection of asbestosis by chest X-ray is unlikely to confer any health advantage or psychological benefit on asbestos-exposed individuals. Moreover, there is now evidence that low-dose multi-detector CT (MDCT) rather than chest X-ray is justified for initial examination because it is more sensitive.

Therefore, while it may be appropriate to obtain a baseline chest X-ray at the time of first assessment, for screening purposes the radiation risk outweighs the benefit of frequent chest X-rays.

Radiation exposure is also a concern for repeated CT scans. Further screening may be justified only if exposure to asbestos has continued and, in this case, the frequency and extent of exposure should determine the requirement for repeat screening. In addition, low-dose CT may be appropriate in individual cases, if there is considered to be an increased risk of lung cancer.
**SUPPORTING EVIDENCE**


   Safe Work Australia Asbestos Guidelines


HOW THIS LIST WAS MADE

The College worked with the President and EVOLVE Lead Fellow of AFOEM to compile and refine a list of nine recommendations regarding low-value clinical practices in occupational and environmental medicine. This initial list served as the basis for an online survey. Based on survey responses, each of the nine recommendations was assigned a score and ranked accordingly. Based on the ranking of the initial nine, and the review of newly suggested items, these five low-value practices and interventions were chosen.

Last reviewed: August 2017
1 Do not rely on random measures of circadian hormones for diagnostic purposes

Numerous hormones, such as growth hormone and testosterone, are subject to circadian rhythms. Relying on random measures of these hormones is therefore of limited diagnostic utility as their levels may peak and plateau at particular times throughout the day. Unless adjustments are made to take account of these circadian rhythms then random readings will not be sufficiently informative.

2 Do not rely solely on bone age measurement for assessing growth in young children with short stature under 2 years of age

There is no consensus protocol on bone-age assessment of younger children and infants, particularly those under the age of two. Skeletal growth and maturation is most rapid in infants and toddlers, so accurate bone-age assessment in these children is challenging.

Of the bone-age measurement techniques available, there is a major inadequacy with one of the most used methods: the limited change in the appearance of the ossification centres of the hand/wrist change in the first months of life. A recent survey found much lower rates of confidence in the accuracy of this technique when applied to the one-to-three-year-old group. Although a recently reported and validated bone-age measurement technique based on fibular shaft length was found to outperform other methods, it still yielded significant errors when applied to infants (i.e. under one year).

3 Do not routinely measure insulin-like growth factor binding protein 3 (IGFBP-3) for workup and diagnosis of childhood short stature

Particularly given its low sensitivity, insulin-like growth factor binding protein 3 (IGFBP-3) does not significantly contribute to the diagnosis of childhood short stature resulting from growth-hormone deficiency (GHD), which can lead to the under identification of GHD. It should therefore not be used as a routine measure for the workup and diagnosis of children with short stature. However, IGFBP-3 testing may have a role, along with IGF-1 testing, as an auxiliary diagnostic index for provocative testing.
Do not initiate gonadotropin-releasing hormone (GnRH) analogue treatment in children outside of central precocious puberty, for the target outcome of delaying puberty and improving final adult height

While there is some evidence that the use of GnRH agonists can achieve improvements in height in females with early puberty, it is also associated with the development of polycystic ovary syndrome (PCOS) in adolescence and risks compromising bone health. Its use outside of clinical trials is not recommended. Given that the treatment duration must also be lengthy for its benefits to be manifested, its use is not recommended to augment height in adolescents with short stature and normally timed puberty.

Do not routinely prescribe aromatase inhibitors to promote growth in children with short stature

Aromatase inhibitors are used as adjuvant therapy for breast cancer. There is growing acceptance of their use to increase the adult height of children with short stature and some evidence that aromatase inhibitors can at least improve short-term growth outcomes. One recent clinical trial of aromatase inhibitors used in paediatric patients found them to be safe and effective. Even so, there is still little evidence overall that this treatment improves final adult height or is sufficiently safe. A 2015 Cochrane review found a significant proportion of pre-pubertal boys undergoing this treatment suffered mild morphological abnormalities of their vertebrae. More evidence is needed to demonstrate safety and efficacy of aromatase inhibitors before they can be routinely prescribed to promote growth in children with short stature.
SUPPORTING EVIDENCE


Wit JM, Hero M, Nunezs SB. Aromatase inhibitors in paediatrics, Nature Reviews Endocrinology 2012; 8:335–47.
HOW THIS LIST WAS MADE

A working group of lead clinicians from APEG brainstormed an initial list of 11 low-value practices in paediatric endocrinology and a preliminary review of the evidence for each was undertaken. An online survey was developed based on these 11 recommendations along with a summary of the evidence for each, and circulated to APEG members for their feedback. For each recommendation, respondents were asked to assign a score from 1 to 5 (where 1 = strongly disagree and 5 = strongly agree) on two criteria: 'The recommendation is evidence based' and 'The recommendation is relevant to paediatric endocrinology in Australasia'. Based on the recommendations which received the highest average total scores, and after a final in-depth review of the related evidence, the final top five were chosen and approved by APEG.

Last reviewed: August 2017
Do not use antibiotics in asymptomatic bacteriuria

Antibiotic treatment of patients with asymptomatic bacteriuria is generally not indicated as it does not decrease the incidence of symptomatic urinary tract infection. This also includes patients with indwelling urinary catheters. Exceptions to this are pregnant women and those undergoing an urological procedure.

Do not take a swab or use antibiotics for the management of a leg ulcer without clinical infection

Lower leg ulcers, most commonly venous ulcers are often treated with oral antibiotics even in the absence of evidence of clinical infection. There is no evidence to support this use, except if screening for carriage of multi-resistant organisms. Also a swab for microscopy and culture, in the absence of signs of infection is not recommended. Unnecessary antibiotics and swabbing will add to healthcare costs, antimicrobial resistance and patient allergy.

Avoid prescribing antibiotics for upper respiratory tract infection

Most uncomplicated upper respiratory infections are viral in aetiology and antibiotic therapy is not indicated. Oral antibiotic therapy of presumed URTI in febrile young infants is not only ‘low value’ but can be actively dangerous, in delaying presentation to hospital (inappropriately reassuring parents and confounding investigations of sepsis). This is a major issue for paediatrics primary care and ED presentations. Patient education is an important component of management together with symptomatic treatment. Infections with Streptococcus pyogenes and Bordetella pertussis do require antibiotic therapy.
4. **Do not investigate or treat for faecal pathogens in the absence of diarrhoea or other gastro-intestinal symptoms**

Testing of faeces for microscopy and culture or by PCR methods should not be performed in the absence of diarrhoea or other gastro-intestinal symptoms. Similarly antimicrobial treatment for a gastrointestinal pathogen is not indicated in the absence of symptoms. For immunocompetent non-traveller children with acute gastroenteritis, there are very few circumstances when a stool test for infection would alter clinical management. Possible exceptions include refugee screening and some neurological syndromes such as enteroviral testing for acute flaccid paralysis.

5. **In a patient with fatigue, avoid performing multiple serological investigations, without a clinical indication or relevant epidemiology**

Multiple serological testing as investigation for a patient with fatigue is not recommended. If such testing is not clinically indicated there is a risk of false positive results leading to further unnecessary investigations and useless treatments.
SUPPORTING EVIDENCE


Letter, dated 26/05/15, from the Australian and New Zealand Paediatric Infectious Diseases Group (ANZPID) to the Royal College of Pathologists of Australasia (RCPA) concerning the significant impact that stool multiplex PCR was having on requests for ID physician opinions and appointments for children, particularly regarding positive results for Blastocystis hominis and Dientamoeba fragilis.

HOW THIS LIST WAS MADE

An initial list of 10 low value interventions was compiled by the Lead Fellow of the Australasian Society for Infectious Diseases (ASID) Inc following an online discussion in ASID’s discussion forum, Ozbug. The Royal Australasian College of Physicians (RACP) then facilitated a consultation of all ASID members via a survey distributed through the society’s e-newsletter. In the survey, members were asked to rank the 10 suggested interventions and suggest additional items for consideration. A subsequent shortlist of items was created by selecting the top 7 interventions as ranked by the members from the initial list.

The shortlist was sent to ASID’s special interest groups and selected members who had agreed to assist, who were asked to recommend the items to comprise the ‘top 5’. This final list was endorsed by ASID Council on 31 July 2015. The Top 5 was then circulated again to the ASID members for final comments before being signed off by ASID’s Executive Committee.

Last reviewed: March 2016
5 Things Clinicians and Consumers Should Question

Developed by the Australasian Society of Clinical Immunology and Allergy

1. Don’t use antihistamines to treat anaphylaxis - prompt administration of adrenaline (epinephrine) is the only treatment for anaphylaxis

For emergency treatment of a severe allergic reaction (anaphylaxis) it is important to promptly administer adrenaline (epinephrine) by intramuscular injection using an adrenaline autoinjector if available, or by using adrenaline ampoules and syringe (the latter is only suitable in a medical setting).

There is a high risk of potential harm (disability or death) from anaphylaxis if it is not treated promptly with adrenaline.

There are also cost implications from delayed or inappropriate treatment of anaphylaxis, such as additional ambulance, emergency department and hospital costs, as well as additional anxiety for patients and their families or carers.

Antihistamines are recommended for treatment of mild and moderate allergic reactions, including allergic rhinitis (hay fever), but have no role in treating or preventing respiratory and cardiovascular symptoms of anaphylaxis.

In particular, oral sedating antihistamines should never be used in patients with anaphylaxis as side effects (drowsiness or lethargy) may mimic some signs of anaphylaxis. Injectable promethazine should not be used in anaphylaxis as it can worsen hypotension and cause muscle necrosis.

For further information go to www.allergy.org.au/anaphylaxis

2. Alternative/unorthodox methods should not be used for allergy testing or treatment

Whilst there is currently no cure for allergy, reliable tests and a range of treatments for allergy are available, which are backed up by scientific studies that demonstrate proven safety and efficacy.

In contrast, numerous studies have demonstrated the uselessness of several alternative/unorthodox methods that claim to test or treat allergy. These methods continue to be promoted in the community and some even make false claims that they can cure allergy. There is also currently no stringent regulation of alternative/unorthodox diagnostic techniques and devices, so they can be “listed” in Australia without having to prove that they work.

There is a risk of potential harm if individuals with allergies are incorrectly diagnosed and inappropriately treated using alternative/unorthodox methods, particularly if they have severe allergies.

To find out more or become involved:
Visit www.choosingwisely.org.au or follow twitter.com/ChooseWiselyAU or email choosingwisely@nps.org.au
Allergen immunotherapy should not be used for routine treatment of food allergy – research in this area is ongoing

Research into allergen immunotherapy for food allergy is ongoing and until further work determining safety and efficacy is determined, it should not be performed outside of well defined medical research studies, as there is a high risk of potential harm in individuals with severe food allergy.

Allergen immunotherapy is currently only recommended for treatment of allergic rhinitis (hay fever) and sometimes allergic asthma, due to environmental allergens (such as pollen or dust mites) and for the treatment of stinging insect allergy. Allergen immunotherapy should be considered in appropriate patients when symptoms are severe, the cause is difficult to avoid (such as grass pollen or stinging insects) and medications don’t help or cause adverse side effects.

For further information go to www.allergy.org.au/patients/allergy-treatment

Food specific IgE testing should not be performed without a clinical history suggestive of IgE-mediated food allergy

Reliable and proven diagnostic tests for food allergy include skin prick testing, blood tests for food specific IgE antibodies and medically supervised food allergen challenges. Allergy test results should never be used on their own, and must be considered together with the patient’s clinical history. In the absence of a history of clinical symptoms, low levels of allergen-specific IgE are usually of little diagnostic significance.

Allergy testing of individuals where there is no evidence that food allergy plays a role in their clinical symptoms increases the likelihood of irrelevant false positive results. This may lead to potential harm due to inappropriate and unnecessary dietary restrictions, with nutritional implications for the individual (particularly in children) and unnecessary fear and anxiety (particularly for the family or carers).

For further information go to www.allergy.org.au/patients/food-allergy

The costs of alternative/unorthodox methods are significant, and are usually paid for by individuals, with rebates from some private health funds. There are cost implications for healthcare services as well as individuals, as these funds are being directed into non-productive areas, and are therefore not available for more useful medical tests and treatments.

Examples of alternative/unorthodox methods that have been demonstrated to lack evidence for testing or treating allergy include food specific IgG and IgG4 tests, homeopathy, cytotoxic testing and kinesiology.

For further information go to www.allergy.org.au/patients/allergy-testing
Don’t delay introduction of solid foods to infants - ASCIA Guidelines for Infant Feeding and allergy prevention recommend introduction of solid foods to infants, around 6 months of age.

This recommendation is consistent with ASCIA Guidelines for infant feeding and allergy prevention (2016), which recommend introduction of solid foods to infants, at around 6 months of age, but not before 4 months (including foods considered to be highly allergenic such as peanut) preferably whilst breast feeding.

It is important to seek medical advice if an allergic reaction occurs and also regarding the safe introduction of foods if an infant has a sibling or parent with food allergy.

This recommendation is also consistent with findings from recent studies, including the LEAP (Learning Early About Peanut Allergy) trials published in the New England Journal of Medicine (NEJM) in 2015 and 2016. The LEAP trials concluded that the early introduction of peanuts significantly decreased (by 80%) the frequency of the development of peanut allergy among children at high risk for this allergy and modulated immune responses to peanuts.

For further information go to www.allergy.org.au/patients/allergy-prevention

To find out more or become involved:
Visit www.choosingwisely.org.au or follow twitter.com/ChooseWiselyAU or email choosingwisely@nps.org.au
SUPPORTING EVIDENCE

Andreae, D. and M. Andreae, ‘Should Antihistamines be Used to Treat Anaphylaxis?’, BMJ. 2009;338:b2489


 Togias A et al Addendum guidelines for the prevention of peanut allergy in the United States: Report of the National Institute of Allergy and Infectious Diseases (NIAID) sponsored expert panel. WAO J 2017 10(1):1
 www.ncbi.nlm.nih.gov/pmc/articles/PMC5217343/
HOW THIS LIST WAS MADE

The RACP Strategic Policy and Advocacy group assisted ASCIA in compiling the original list of 25 tests, treatments and services, that have been identified either in past work by ASCIA, other literature reviews or in evidence reviews performed by overseas specialist physician bodies or health agencies as being overused, inappropriate or of limited effectiveness.

Two electronic surveys were sent to ASCIA members who are Fellows of the RACP (256 members in total) in February 2015 and March 2015, to firstly rank a top 5 from the list of 25, and secondly to review the wording and rankings of the top 5 recommendations. The overall response rate for these surveys was 20%.

All ASCIA members and relevant patient organisations were invited to review the list for a 2 week review period.

Last reviewed: August 2017

About Choosing Wisely Australia
Choosing Wisely Australia® is enabling clinicians, consumers and healthcare stakeholders to start important conversations about tests, treatments and procedures where evidence shows they provide no benefit and in some cases, lead to harm. This initiative is being led by Australia’s medical colleges, societies and associations and is facilitated by NPS MedicineWise.

About Australasian Society of Clinical Immunology and Allergy (ASCIA)
ASCIA was established in 1990 as the peak professional body for allergy and clinical immunology in Australia and New Zealand. ASCIA is a member society of the World Allergy Organisation (WAO) and a specialty society affiliated with the Royal Australasian College of Physicians (RACP).

ASCIA currently represents 643 members, including specialist physicians and other health professionals who work in the areas of allergy and clinical immunology.

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5 THINGS
CLINICIANS AND CONSUMERS SHOULD QUESTION

Developed by the Australian and New Zealand Association of Neurologists

1. Don’t perform imaging of the carotid arteries for simple fainty

Syncope is common, with a lifetime prevalence of 40%. Carotid imaging studies such as carotid duplex are commonly performed in patients presenting with syncope. When symptomatic, occlusive carotid artery disease causes focal neurologic symptoms such as weakness, altered sensation or speech, and not syncope. In addition, studies demonstrate that even elderly patients with syncope are unlikely to have carotid occlusive disease. Therefore, performing carotid imaging studies in patients with syncope increases cost without adding benefit. Furthermore, carotid imaging may identify incidental asymptomatic occlusive carotid artery disease that may be inappropriately assumed to be the cause of the syncope. This can delay the identification of the true cause of syncope and may subject the patient to additional risk-associated procedures such as catheter angiography, carotid endarterectomy (CEA), or carotid stenting.

2. Don’t perform imaging of the brain for non-acute primary headache disorders

Headache is a common disorder with many potential causes. The primary headache disorders, which include migraine and tension headaches, account for the majority of headaches. Secondary headaches, which are those with underlying pathology (e.g., tumour, aneurysm, or giant cell arteritis) are far less common. Most patients presenting with headache will not have a serious underlying condition. Neuroimaging is not usually warranted for patients with recurrent migraine or tension headaches and a normal neurological examination. The likelihood of significant intracranial lesions on CT or MRI in this group ranges from 0.3% to 0.4%. Headache worsened by Valsalva maneuver, headache causing awakening from sleep, new headache in the older population, or progressively worsening headache may indicate a higher likelihood of finding significant abnormalities on CT or MRI as does the presence of abnormal neurological signs on examination.

To find out more or become involved:
Visit www.choosingwisely.org.au or follow twitter.com/ChooseWiselyAU or email choosingwisely@nps.org.au
3. Don’t perform epidural steroid injections to treat patients with low back pain who do not have radicular symptoms in the legs originating from the nerve roots

Lumbar epidural steroid injections may provide limited short term benefit (less than 3-6 months) for patients with an acute lumbar radiculopathy causing back pain and symptoms in the legs (Level C evidence). When there is low back pain alone, the outcomes of epidural steroid injections are poor. Although serious adverse events are rare, catastrophic events can occur and any symptom relief from the injection is typically brief. The inconsequential benefits of epidural steroid injections for low back pain without radicular symptoms do not outweigh its risks, no matter how small they may be.

4. Don’t use opioids for the treatment of migraine, except in rare circumstances

Migraine is the most frequent cause of headache seen in the medical office, urgent care, or emergency department. Almost all patients should receive migraine-specific medications or non-opioid analgesics because these medications are the most effective migraine treatments. However, many patients continue to receive opioids for migraine treatment. Use of opioids increases the risk of headache and chronic migraine arising from medication overuse. The per capita cost of headache and chronic migraine arising from medication overuse is 3 times that of episodic migraine. When medical conditions such as cardiovascular disease or pregnancy preclude use of migraine-specific treatments, or when migraine-specific treatments fail, opioids are sometimes considered for rescue therapy. In these circumstances, use should be limited to 9 days per month or less to avoid medication overuse headache, and doctors should continue to focus on preventive and behavioural aspects of migraine care. In addition, long-term follow-up is needed to prevent treatment complications.

5. Don’t routinely recommend surgery for a narrowed carotid artery (>50% stenosis) that has not caused symptoms

Best medical therapy is generally the appropriate management of patients with asymptomatic carotid stenosis. Medical treatment has improved since trials comparing carotid endarterectomy (CEA) plus best medical treatment with best medical treatment in asymptomatic carotid stenosis were conducted. There is evidence that the annual stroke rate in patients with asymptomatic carotid stenosis receiving best medical treatment has fallen to ≤1% annually. The effectiveness of CEA compared with current best medical therapy is not established. Additionally, randomised trials suggested equivocal benefit in women and patients aged >75. It may be reasonable to consider CEA for highly selected patient aged <75 years with >70% stenosis of the internal carotid artery. Where the perioperative risk of stroke, death and myocardial infarction is <3% and the patient is estimated to have a life expectancy of more than 3 to 5 years, consultation with a physician with expertise in stroke care is recommended prior to surgery.
SUPPORTING EVIDENCE


Tepper SJ. Opioids should not be used in migraine. Headache 2012;52; S1:30-4.

HOW THIS LIST WAS MADE

The ANZAN Council considered 12 clinical practices in neurology which may be overused, inappropriate or of limited effectiveness in a given clinical context. After choosing the top 5 items to prioritise, these were passed on to the appropriate subspecialty committees within ANZAN for comment and additional suggestions. The final list of the top 5 items chosen was compiled following a review of the evidence and the formulation of suitable recommendations and endorsed by the Council on 7th January 2016.

Current as at: October 2016
Avoid routinely performing preoperative blood investigations, chest X-ray or spirometry prior to surgery, but instead order in response to patient factors, symptoms and signs, disease, or planned surgery.

Preoperative testing aims to provide results that will guide preoperative, intraoperative and postoperative care, particularly results that may change the intended plans. Preoperative laboratory blood investigations in asymptomatic patients undergoing low risk surgery are of little value in detecting abnormalities that will alter patient management and/or improve outcomes. Even when minor abnormalities in laboratory values are detected in asymptomatic patients, adverse outcomes are rare. Clinical history and physical examination should be used to determine the need for laboratory blood testing before low risk surgery; that is, test on the basis of patient and surgical factors.

Similarly, in the absence of positive clinical findings, or significant history, abnormal chest X-ray or spirometry results are uncommon. Positive results, in the absence of symptoms or signs, are unlikely to significantly influence perioperative management. Although the diagnostic yield of preoperative chest X-rays increases with age, most abnormalities reflect chronic disorders and when performed in asymptomatic patients do not impact on anaesthetic management or perioperative outcome. In other words, chest X-ray results are not predictive of postoperative pulmonary complications in most patients. Preoperative chest X-rays may, however, be appropriate prior to cardiac and thoracic surgery and as part of oncological evaluation. There is insufficient evidence to support spirometry as an appropriate tool to stratify risk of postoperative adverse respiratory events. Spirometry may be of value in lung resection surgery, unexplained dyspnoea, and uncertainty about whether known airflow obstruction is optimally reduced. Rather than performing these investigations routinely for surgery, decisions should be individualised, depending on patient history and examination.

Further, for all of these tests, lack of symptoms, signs or known disease increases the likelihood that positive findings are false positives exposing patients to the risks of unnecessary further testing.
2. **Avoid ordering cardiac stress testing for asymptomatic patients prior to undergoing low to intermediate risk non-cardiac surgery**

Unnecessary cardiac stress testing increases the patient risk profile for the intended surgery by exposing the patient to the inherent complications of the investigation employed. A further consequence may be the invasive treatment of asymptomatic non-critical coronary disease leading to further patient risk and delay of surgery.

Cardiac stress testing should be reserved for symptomatic patients who would normally qualify for the investigation regardless of the need for an operation, and asymptomatic patients at high risk of coronary disease with a significant risk of major adverse cardiac events due to co-morbidity or the high risk nature of the surgery.

3. **Avoid administering packed red blood cells (blood transfusion) to a young healthy patient with a haemoglobin of ≥70g/L who does not have on-going blood loss, unless the patient is symptomatic or haemodynamically unstable**

The optimal haemoglobin criterion for transfusion remains controversial and under investigation, varying between 60 and 100 g/L. Compared with higher haemoglobin thresholds, a lower haemoglobin threshold is associated with fewer red blood cell units transfused, without adverse associations with mortality, cardiac morbidity, functional recovery or length of hospital stay in young otherwise healthy patients. Hospital mortality is lower in younger patients randomised to a lower haemoglobin threshold for transfusion versus those randomised to a higher haemoglobin threshold.

The decision to transfuse should be based on a combination of both haemoglobin level and assessment of the patient’s clinical status, in particular, haemodynamic indicators and underlying cardiovascular pathology. Currently there is no evidence of benefit and some evidence of harm in the transfusion of packed red blood cells to young healthy haemodynamically stable patients without symptoms.

4. **Avoid initiating anaesthesia for patients with limited life expectancy, at high risk of death or severely impaired functional recovery, without discussing expected outcomes and goals of care**

The high risk of postoperative morbidity and mortality in the elderly population in particular has been well documented. Patients over 70 years of age having major surgery in Australia and New Zealand health care facilities are at high risk for postoperative events, with 20% experiencing complications within 5 days, 10% requiring critical care admission and 5% dying within 30 days.

Frailty is the state of increased vulnerability to stressors and increases the risk of adverse outcomes including falls, delirium and disability. Such stressors may include hospitalisation and surgery. Functional capacity, one aspect of frailty assessment, has been shown to be an independent predictor of mortality with each ASA class. There is currently much research into the implementation of frailty assessment as part of clinical practice and into whether preoperative measures and postoperative management can improve outcomes. Discussion with the patient and family about the risks and benefits of hospitalisation and surgery in this context are important.

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Discussion must centre on patient values and preferences for care and the goals of care when there is significant risk of perioperative morbidity or mortality. This is particularly pertinent in patients with limited life expectancy due to advanced cardiac, renal or respiratory failure and/or metastatic malignancy. Discussions around expected functional recovery and treatment limitations have been demonstrated to reduce stress and anxiety in patients and their families. Many healthcare facilities now require advanced care directives or goals of care plans on or shortly after admission in the appropriate clinical setting.

For patients at highest risk, and where time allows, the discussions should be led by a multidisciplinary, consultant level team, particularly where there is a risk of futile surgery and/or futile intensive care. It is important to ensure that alternative care, focused predominantly on comfort and dignity, is offered to patients and their families.

The ability to provide adequate perioperative care for patients with significant co-morbidities including morbid obesity is a crucial factor in determining whether surgery should be performed in a particular facility. The complexity of the proposed surgery should also be considered. Adequate and timely preoperative assessment must be facilitated to ensure that scheduling of a procedure is appropriate for the facility. In particular, small private hospitals which have no on-site medical practitioners overnight and no intensive care backup must have robust pre-admission processes in which higher risk patients are screened to ensure that they are not accepted for overnight admission unless they have been assessed as suitable for that facility by an anaesthetist or medical specialist.

Intraoperative staffing, equipment and infrastructure are crucial. Postoperatively, staffing ratios and skill sets, requirements for monitoring, medical support and high dependency unit care, as well as optimal pain management, must be considered.

Patients with obstructive sleep apnoea (OSA) and obese patients who may or may not have a formal diagnosis of OSA and/or obesity hypoventilation syndrome represent a particularly high risk group when pain management includes opioid analgesics. The inherent risks of postoperative respiratory depression demand adequate post procedure monitoring by skilled staff.

In summary, the patient and the proposed surgery must be appropriate for the facility. Importantly, patients in rural and remote locations may accept higher risk to be closer to home and a discussion may be required with the patient and treating physicians about whether performing a procedure at a local facility is an acceptable risk.
SUPPORTING EVIDENCE


HOW THIS LIST WAS MADE

ANZCA’s Safety and Quality Committee established a working group that developed a preliminary list of 10 anaesthetic-related practices that, based on clinical evidence, may have possible limited benefit, no benefit or may potentially cause harm to patients. Using an on-line survey tool, all ANZCA Fellows and trainees were invited to rank these recommendations and provide relevant comments. This engagement facilitated consensus and informed Fellows and trainees about ANZCA’s involvement with the Choosing Wisely campaign.

ANZCA’s final list of 5 Choosing Wisely recommendations deliberately supports the clinician’s judgements and emphasises the importance of considering patient and surgical factors in decision making; in particular, as regards the selection of necessary preoperative testing and appropriate facilities for all patients and the expected outcomes and goals of care for the medically frail.

Current as at: January 2017

About Choosing Wisely Australia
Choosing Wisely Australia® is enabling clinicians, consumers and healthcare stakeholders to start important conversations about tests, treatments and procedures where evidence shows they provide no benefit and in some cases, lead to harm. This initiative is being led by Australia’s medical colleges, societies and associations and is facilitated by NPS MedicineWise.

About the Australian and New Zealand College of Anaesthetists
The Australian and New Zealand College of Anaesthetists (ANZCA), including the Faculty of Pain Medicine, is one of Australasia’s largest specialist medical colleges and is responsible for the training, examination and specialist accreditation of anaesthetists and pain medicine specialists and for the standards of clinical practice. ANZCA also plays a significant role in the advancement of anaesthesia in South East Asia and South Pacific island countries.

About NPS MedicineWise
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5 Things Clinicians and Consumers Should Question

For patients with limited life expectancy (such as advanced cardiac, renal or respiratory failure, metastatic malignancy, third line chemotherapy) ensure patients have a ‘goals of care’ discussion at or prior to admission to ICU and for patients in ICU who are at high risk for death or severely impaired functional recovery, ensure that alternative care focused predominantly on comfort and dignity is offered to patients and their families.

The ANZICS Statement on Care and Decision Making at the End of Life for the Critically Ill states that the goal of intensive care is to return patients to a quality of life that is acceptable to them. In order to achieve this goal, it is essential that clinicians explore the values and preferences of each patient. Engaging with patients and their families in the discussions around treatment limitations or withdrawal can improve the quality of dying and reduce family and staff stress and bereavement.

Remove all invasive devices, such as intravascular lines and urinary catheters, as soon as possible.

Patients in the intensive care unit often require invasive devices as part of their treatment as well as monitoring of therapy. These lines however are a potential source of healthcare related infections. Preventative “bundles” of care including simple measures such as hand hygiene and aseptic methods of insertion and care of devices have reduced the risk of health care related infections. Infections related to invasive devices are a significant cause of morbidity and mortality. Hence, all invasive devices such as arterial lines, central lines, urinary catheters should be removed as soon as possible.

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Transfuse red cells for anaemia only if the haemoglobin concentration is less than 70gm/L or if the patient is haemodynamically unstable or has significant cardiovascular or respiratory comorbidity

Numerous studies have highlighted the adverse outcomes that may be associated with blood transfusion. Randomised and other trials have indicated that transfusion of red blood cells for the treatment of anaemia in otherwise haemodynamically stable patients is either of no benefit or even harmful. There appears to be little or no proven benefit of transfusing beyond a threshold haemoglobin level of 70gm/L though the precise threshold for any given patient is unknown. Patients with active cardio-respiratory disease or neurological injury may warrant a higher threshold although harm associated with liberal transfusion in this group has also been reported.

Undertake daily attempts to lighten sedation in ventilated patients unless specifically contraindicated and deeply sedate mechanically ventilated patients only if there is a specific indication

Critically ill patients requiring mechanical ventilation are frequently treated with sedatives and analgesics, to treat pain, anxiety, dyspnoea and reduce tissue oxygen consumption. However prolonged or excessive sedation can be associated with delirium, critical illness weakness, prolonged ventilation and length of stay. Protocol-based approaches to limit deep sedation, by explicating titrating the sedation to a sedation goal, and daily interruptions of sedation, have been shown to improve patient outcomes, including a reduction in mortality. Exceptions to the daily sedation holiday are for patients requiring muscle paralysis, who should not be woken until the paralytic agent has worn off.

Consider antibiotic de-escalation daily

Infection can precipitate a need for intensive care admission and can occur as a complication of an ICU admission. The earliest administration of the most appropriate antibiotic and source control confer mortality benefit. However, antibiotics are also frequently used for the presumptive management of patients with ‘sepsis’ that may later prove to not have an infectious aetiology. In most circumstances, data regarding the appropriate duration of antibiotic administration are very difficult to interpret. In some conditions such as endocarditis or osteomyelitis longer courses of antibiotics have been recommended. However, there is increasing evidence that shorter courses of antibiotics for common infections such as hospital acquired pneumonia do not confer worse outcomes or increased mortality than longer courses. Moreover, shorter courses probably help to prevent the development of antibiotic resistance. In the absence of microbiological evidence of ongoing infection and with an improvement in clinical status, consideration should be given to discontinuing antibiotics at the earliest opportunity possible.
SUPPORTING EVIDENCE


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Kumar, A et al. Duration of hypotension before initiation of effective antimicrobial therapy is the critical determinant of survival in human septic shock. Crit Care Med 2006;34:1589-1596.
HOW THIS LIST WAS MADE

A working group of interested parties from both CICM and ANZICS was formed to develop a list of 12 items that they believe should be focused on to reduce the number of unnecessary tests and interventions performed in intensive care. All CICM Fellows and ANZICS members were surveyed to develop a consensus view of a final list of five items. There were 6 items clearly favoured and two of these were combined by the working group to develop the final 5 recommendations.

Last reviewed: March 2016
5 Things Clinicians and Consumers Should Question

Developed by the Australian and New Zealand Society for Geriatric Medicine

1. Do not use antipsychotics as the first choice to treat behavioural and psychological symptoms of dementia

People with dementia may exhibit aggression, resistance to care and other challenging or disruptive behaviours. In such instances, the modest effectiveness of atypical antipsychotics may be offset by the higher risks for adverse events and mortality. Non-pharmacological interventions can be an effective substitute for antipsychotic medications. Use of these drugs should therefore be limited to cases where non-pharmacologic measures have failed and patients pose an imminent threat to themselves or others.

2. Do not prescribe benzodiazepines or other sedative-hypnotics to older adults as first choice for insomnia, agitation or delirium

There is strong evidence that use of sedative-hypnotics (both benzodiazepines and non-benzodiazepines) is associated with various adverse effects in elderly people such as falls and fractures. Older patients, their caregivers and their providers should recognize these potential harms when considering treatment strategies for insomnia, agitation or delirium. Thus these drugs should be prescribed with caution, and their use monitored closely.

3. Do not use antimicrobials to treat bacteriuria in older adults where specific urinary tract symptoms are not present

Studies have found that asymptomatic bacteriuria frequently resolves without any treatment and frequently reoccurs after treatment. Antimicrobial treatment studies for asymptomatic bacteriuria in older adults demonstrate no benefits and, in fact, often show increased adverse antimicrobial effects.

4. Do not prescribe medication without conducting a drug regimen review

Older patients disproportionately use more prescription and non-prescription drugs than other populations, increasing the risk of side effects. Evidence shows that polypharmacy is associated with adverse drug reactions and an increased risk of hospital admissions. Medication review with regular, scheduled follow ups are recommended for improving quality of life in older adults with polypharmacy.

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Do not use physical restraints to manage behavioural symptoms of hospitalized older adults with delirium except as a last resort

There is little evidence to support the effectiveness of physical restraints to manage people with delirium who exhibit behaviours that risk injury. Physical restraints can lead to serious injury or death and may worsen agitation and delirium. Restraints should therefore be used as a last resort and should be discontinued at the earliest possible time, particularly given that effective non-pharmacological alternatives are available.
SUPPORTING EVIDENCE


HOW THIS LIST WAS MADE

Members of the Australian & New Zealand Society for Geriatric Medicine completed an online survey asking them to choose the 5 most relevant ‘low value’ practices from a list of 11. Respondents were also asked to nominate any additional practices which they regarded as overused, inappropriate or of limited effectiveness in the specialty of geriatric medicine. A total of 196 responses were received.

The list of items were then subject to consideration by the Federal Council. Specifically, members of Federal Council were asked to rate each of these 16 items in terms of their strength in meeting 7 criteria: Is there a reasonable evidence base upon which to drive change? Are older people likely to benefit from work we might do to change practice? Is the problem sizeable? Are there opportunities and a willingness within geriatric medicine to lead practice change? Are there opportunities to collaborate with other organisations with a shared interest in the area? Will this promote a positive profile for ANZSGM? Is this an area of potential conflict with other Societies?

Based on the ratings they assigned to these items the ‘Top 5’ list items were chosen and reformulated as recommendations for clinicians.

Last reviewed: August 2016
Palliative care provides an added layer of support to patients with life-limiting disease and their families. Symptomatic patients can benefit regardless of their diagnosis, prognosis or disease treatment regimen. Studies show that integrating palliative care with disease-modifying therapies improves pain and symptom control, as well as patient quality of life and family satisfaction. Early access to palliative care has been shown to reduce aggressive therapies at the end of life, prolong life in certain patient populations, and significantly reduce hospital costs.

Advance care planning is a process, which includes choosing a surrogate or alternate decision-maker and communicating values or wishes for medical care. Evidence shows that advance care planning conversations improve patient and family satisfaction with care and concordance between patients' and families' wishes, reduce the likelihood of unnecessary hospital care and increase the likelihood of receiving hospice care.

Oxygen is frequently used to relieve shortness of breath in patients with advanced illness. However, supplemental oxygen does not benefit patients who are breathless but not hypoxic. Supplemental flow of air is equally as effective as oxygen under these circumstances. The use of a fan for facial air streaming can also be effective.
Do not use percutaneous feeding tubes in patients with advanced dementia; instead use oral assisted feeding

Strong evidence exists that artificial nutrition does not prolong life or improve quality of life in patients with advanced dementia. Substantial functional decline and recurrent or progressive medical illnesses may indicate that a patient who is not eating is unlikely to obtain any significant or long-term benefit from artificial nutrition. Feeding tubes are often placed after hospitalization, frequently with concerns for aspirations, and for those who are not eating. Contrary to what many people think, tube feeding does not ensure the patient’s comfort or reduce suffering; it may cause fluid overload, diarrhoea, abdominal pain, local complications, less human interaction and may increase the risk of aspiration. Assistance with oral feeding is an evidence-based approach to provide nutrition for patients with advanced dementia and feeding problems.

To avoid adverse medication interactions and adverse drug events in cases of polypharmacy, do not prescribe medication without conducting a drug regime review

Older patients disproportionately use more prescription and non-prescription drugs than other populations. Evidence shows that such polypharmacy increases the risk of adverse drug reactions and hospital admissions. Medication review with follow up is therefore recommended for optimising prescribed medication and improving quality of life in older adults with polypharmacy.
SUPPORTING EVIDENCE


HOW THIS LIST WAS MADE

Fellows from the Australian and New Zealand Society of Palliative Medicine and Australasian Chapter of Palliative Medicine (ANZSPM/AChPM) convened a working group to produce an EVOLVE list for palliative medicine. The Royal Australasian College of Physicians (RACP) assisted this working group in compiling a list of 15 clinical practices in palliative medicine which may be overused, inappropriate or of limited effectiveness in a given clinical context based on a desktop review of similar work done overseas. This list was then sent out to all ANZSPM and AChPM members, seeking feedback on whether the items fully captured the concerns of clinicians in an Australasian palliative medicine context and if not, whether any items should be omitted and/or new items added. 40 responses to this email were received. Based on these, 3 items were removed leaving a shortlist of 12. An online survey was then sent to all ANZSPM and AChPM members asking respondents to rate each item against three criteria from 1 (lowest) to 5 (highest), and to nominate any additional practices worthy of consideration. The criteria used to rate the practices were strength of evidence, significance in palliative care and whether palliative care physicians could make a difference in influencing the incidence of the practice in question. Based on the 114 responses to this survey, the top 5 were selected.

Last reviewed: March 2016
Peripheral intravenous catheter (IV) are routinely used for vascular access. The unnecessary removal and replacement of a functional IV catheter breaches skin integrity, posing an increased risk of healthcare-associated infection and trauma to patients. This in turn, frequently results in increased length of stay, less than optimal health care outcomes and unnecessary use of health resources.

Evidence suggests there is no significant difference in cases of phlebitis if peripheral IV catheters are replaced only when clinically indicated. Common clinical indications for replacement include phlebitis, infiltration and blockage. Catheter related trauma and infection may also be minimised by vigilant monitoring of the insertion site by health care staff and removal of catheters as soon as it is no longer required.

Don’t replace peripheral intravenous catheter unless clinically indicated

Imposing unnecessary blood glucose monitoring regimes, that needlessly change a person’s routine, and are random, low frequency or do not provide patients or health care professionals with information that is of value in managing diabetes, will not enhance therapeutic goals.

Glycaemic control is pertinent to the management of Diabetes Mellitus (DM), with self-management a valuable tool in reducing the incidence of complications, improving HbA1c levels*, enhancing quality of life and reducing related health care costs.

The ability to self-care also empowers people and helps to engage them in developing and maintaining behaviours and lifestyle choices that result in improved long-term health outcomes. Blood glucose monitoring should provide feedback relevant to a person’s management plan, including frequency of timing and testing. In addition, unclear or inconsistent monitoring interventions can be needlessly traumatic, may confuse patients and even discourage them from the self-management process.

*The glycosylated haemoglobin (HbA1c) test shows an average blood glucose level over 10-12 weeks.
3. Don’t routinely administer antipyretics with the sole aim of reducing body temperature in undistressed children

Fever is defined as a rise in body temperature above the normal range of approximately 37.8 degrees Celsius and is commonly seen as a primary indication of illness in children. It is a normal physiological response to infection and illness and will not place a generally healthy child at harm.

The benefits of fever in slowing the growth and replication of bacteria and viruses are well documented within the literature, however the administration of pharmacological antipyretic therapy to reduce fever remains a common clinical intervention. Current evidence does not support the routine use of antipyretics solely to reduce body temperature but to maximise the comfort and well-being of the distressed child as an adjunct to the investigation and management of the cause of fever.

Antipyretic therapy is not effective in managing adverse symptoms of fever such as febrile convulsion. Supportive care that includes parental education is also important to increase understanding and to decrease anxiety.

4. Don’t use urinary catheters to manage urinary incontinence unless all other appropriate options have proved to be ineffective or to prevent wound infection or skin breakdown

Urinary tract infections (UTIs) are the most common healthcare associated infection, the majority of which can be associated with the use of indwelling urinary catheters (IDC). Urinary tract infections in hospitalised patients increase morbidity and mortality, antibiotic exposure and often prolong length of hospital stay.

The use of indwelling urinary catheters to manage incontinence is not recommended unless as a last resort or to prevent wound infection or skin breakdown and should be removed as soon as possible.

5. Don’t initiate plain X-ray for foot and ankle trauma unless criteria of the Ottawa Ankle Rules are met

Traumatic injury to the foot and ankle are a common reasons for presentation to the emergency department. The Ottawa Ankle Rules (OAR) are an effective screening tool to guide the use of plain x-ray in the evaluation of these injuries. Validation studies have found that the OARs have an almost 100% sensitivity in many studies in a number of clinical settings. The correct application of the OARs can identify patients who are likely to have a clinically significant fracture and reduce unnecessary use of diagnostic imaging resources by 30-40%.
SUPPORTING EVIDENCE

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HOW THIS LIST WAS MADE

The Australian College of Nursing (ACN) as nursing lead, established a collaborative working party incorporating a diverse range of nursing expertise. Professional nursing bodies involved in initial collaboration included: Congress of Aboriginal and Torres Strait Islander Nurses and Midwives (CATSINaM); CRANAplus; Australian Primary Health Care Nurses Association (APNA); Australian College of Mental Health Nurses (ACMHN).

ACN’s membership was consulted via publications, web site and ACN’s National Nursing Forum. This consultation provided a broad view from our members regarding planning and delivery of nursing care across Australia. An interactive session invited delegates to actively participate in identifying those nursing practices, interventions, or tests that evidence shows provide no benefit or may even lead to harm. This informative stimulating session examined a range of nursing practices and their effects on healthcare consumers.

At this point specialist nursing groups were approached for comment on our recommendations. This group included: Australasian College for Infection Prevention and Control (ACIPC); Australian Diabetes Educators Association (ADEA); Continence Nurses Society Australia (CNSA); Australian and New Zealand Urological Nurses Society (ANZUNS); Medical Imaging Nurses Association (MINA); and the Australian and New Zealand Orthopaedic Nurses Association (ANZONA). Final consultation with ACN Members and Fellows prior to submission ensured a collaborative result.

Last reviewed: March 2016

About Choosing Wisely Australia
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About the Australian College of Nursing
ACN is the national professional organisation for nurses in health and aged care settings. ACN provides nursing expertise to government and key stakeholders, and seeks to enhance the expertise of nurses when providing leadership and contribution to policy, practice and delivery of health care.

About NPS MedicineWise
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5 Things Clinicians and Consumers Should Question

Developed by the Gastroenterological Society of Australia

Do not repeat colonoscopies more often than recommended by the National Health and Medical Research Council (NHMRC) endorsed guidelines

Colonoscopy, with or without polypectomy, is an invasive procedure with a small but not insignificant risk of complications, including perforation or major haemorrhage postpolypectomy, depending on size of lesion. Surveillance colonoscopies place a significant burden on endoscopy services. Consequently, surveillance colonoscopy should be targeted at those who are most likely to benefit and at the minimum frequency required to provide adequate protection against the development of cancer.

Cancer Council Australia guidelines, endorsed by NHMRC, state that if one to two adenomas less than one cm in diameter are removed via a high quality colonoscopy, a follow up interval of five years is recommended. For larger adenomas, three or more adenomas or adenomas containing villous features or high grade dysplasia, which are removed via a high quality colonoscopy, the recommended follow-up period is three years.

Do not undertake faecal occult blood testing in patients who report rectal bleeding, or require investigation for iron deficiency or gastrointestinal symptoms

The faecal occult blood test (FOBT) was developed for use in the outpatient setting for colorectal cancer screening in asymptomatic patients with average risk of colorectal carcinoma. Studies suggest that it has limited positive impact for hospitalised patients who report rectal bleeding or require investigation for iron deficiency or gastrointestinal symptoms, as it is unlikely to change patient management and may in fact delay investigations while waiting for the results of the test. Inappropriate use of the FOBT may lead to unnecessary additional investigations (e.g. colonoscopy), which also carries risks and may limit the availability of such investigations for more appropriate indications.
3 Do not continue prescribing long term proton pump inhibitor (PPI) medication to patients without attempting to reduce the medication down to the lowest effective dose or cease the therapy altogether.

While proton pump inhibitors (PPIs) are effective drugs for the treatment of gastroesophageal reflux disease (GERD), their use has been linked to increased risk of fractures, pneumonia, enteric infections, vitamin and mineral deficiencies, and acute interstitial nephritis, particularly among older people who make up the largest proportion of PPI users. While there is insufficient evidence to establish causation, these reports deserve consideration when prescribing long term PPI use. This is especially because some patients may be able to stop PPI use immediately after the initial course of therapy without experiencing symptoms. Even though GERD is often a chronic condition, over time the disease may not require acid suppression and it is important that patients do not take drugs that are no longer necessary.

4 Do not undertake genetic testing for coeliac genes as a screening test for coeliac disease.

The value of testing for coeliac genes is primarily as a negative test – if the gene test is negative then coeliac disease may be excluded. However as a coeliac gene can be found in approximately one third of the population, a positive result does not make coeliac disease a certainty. Serological testing, in a patient consuming an appropriate amount of gluten, is the appropriate first line screening test for coeliac disease. A small bowel biopsy is then required if serology is positive.

5 Do not perform a follow-up endoscopy less than three years after two consecutive findings of no dysplasia from endoscopies with appropriate four quadrant biopsies for patients diagnosed with Barrett's Oesophagus.

Barrett’s Oesophagus (or Barrett’s mucosa) is the term given to a change which occurs in the lining of the lower oesophagus. It occurs in a small proportion of patients with longstanding gastro-oesophageal reflux. The condition requires surveillance because of an increased risk of oesophageal adenocarcinoma (EAC). This usually develops slowly over a period of some years and can be predicted by the finding of pre-cancerous changes (dysplasia) on biopsies. However, systematic surveillance of Barrett’s Oesophagus patients has not been shown to be cost-effective, and no randomised controlled trials have been conducted to compare surveillance with the natural history of Barrett’s Oesophagus. According to currently-accepted guidelines, it is appropriate and safe to examine the oesophagus and check for dysplasia every three years, as cellular changes occur very slowly.
SUPPORTING EVIDENCE


HOW THIS LIST WAS MADE

The Gastroenterological Society of Australia (GESa) initially engaged its members through its regular online communications, sharing the aims of the EVOLVE initiative, as well as background information on the US and Canadian versions of Choosing Wisely. Members were provided with a copy of the five recommendations made by the American Gastroenterology Association. GESA also consulted externally, with the EVOLVE Lead Fellow addressing the GUT club and the Inflammatory Bowel Disease Group on the initiative.

All members of GESA were invited to submit proposed items for the Top 5 list. The GESA Council reviewed all items before reaching consensus on the recommended final list. A review of the evidence for the shortlisted items was then undertaken and the final list and its rationales were signed off by the GESA Council in May 2016.

Current as at: October 2016
Thrombophilia testing is costly and can result in harm to patients if the duration of anticoagulation is inappropriately prolonged or if patients are incorrectly labelled as thrombophilic. Thrombophilia testing does not change the management of VTEs occurring in the setting of major transient VTE risk factors.

1. Do not conduct thrombophilia testing in adult patients under the age of 50 years unless the first episode of venous thromboembolism (VTE):
   a. Occurs in the absence of major transient risk factors (surgery, trauma, immobility), or
   b. Occurs in the absence of oestrogen-provocation or
   c. Occurs at an unusual site

2. Limit surveillance computed tomography (CT) scans in asymptomatic patients with confirmed complete remission following curative intent treatment for aggressive lymphoma – except for patients on a clinical trial
   CT surveillance in asymptomatic patients in remission from aggressive lymphoma may be harmful through a small but cumulative risk of radiation-induced malignancy. It is also costly and has not been demonstrated to improve survival. Therefore the anticipated benefits of post-treatment CT scans should be weighed against the potential harm of radiation exposure. Due to a decreasing probability of relapse with the passage of time and a lack of proven benefit, CT scans in asymptomatic patients more than 2 years beyond the completion of treatment are rarely advisable.
3. Do not extend anticoagulation beyond 3 months for a patient with a non-extensive, index venous thromboembolic event (VTE), which occurred in the presence of a major, transient risk factor.

Anticoagulation is potentially harmful and costly. Patients with a first VTE triggered by a major, transient risk factor are at low risk for recurrence once the risk factor has resolved and an adequate treatment regimen with anticoagulation has been completed. Evidence-based and consensus guidelines recommend three months of anticoagulation over shorter or longer periods of anticoagulation in patients with VTE in the setting of a reversible provoking factor.

4. Do not perform baseline or routine surveillance CT scans or bone marrow biopsy in patients with asymptomatic early stage chronic lymphocytic leukaemia (CLL).

In patients with asymptomatic, early-stage CLL, baseline and routine surveillance CT scans do not improve survival and are not necessary to stage or prognosticate patients. CT scans expose patients to small doses of radiation, and can detect incidental findings that are not clinically relevant but lead to further investigations and are costly. For asymptomatic patients with early-stage CLL, clinical staging and blood monitoring is recommended over CT scans.

5. Do not treat patients with immune thrombocytopenic purpura (ITP) in the absence of bleeding or a platelet count <30,000/L without risk factors for bleeding.

Treatment for ITP should be aimed at treating and preventing bleeding episodes and improving quality of life. Unnecessary treatment exposes patients to potentially serious treatment side effects and can be costly, with little expectation of clinical benefit. Unless they are preparing for surgery or an invasive procedure, or have a significant additional risk factor for bleeding, ITP treatment is rarely indicated in adult patients with platelet counts greater than 30,000/L. In patients preparing for surgery or other invasive procedures, short-term treatment may be indicated to increase the platelet count prior to the planned intervention and during the immediate post-operative period.
SUPPORTING EVIDENCE


HOW THIS LIST WAS MADE

The Haematology Society of Australia and New Zealand (HSANZ) council, which includes 9 state representatives, convened to form the working group to produce a ‘top 5’ list for haematology. Drawing on the list produced by the American and Canadian Societies of Haematology, the working group compiled a list of 5 clinical practices in haematology which may be overused, inappropriate or of limited effectiveness in a given clinical context.

This list was then sent out to all HSANZ members seeking feedback on whether these items fully captured the concerns of clinicians in an Australasian haematology medicine context and, if not, whether any items should be omitted and/or new items added.

The criteria used to rate the practices were strength of evidence, significance in haematology and whether haematologists could make a difference in influencing the incidence of the practice in question.

Feedback on the items and the recommendations was received from 11 institutional haematology departments (following intradepartmental consultation) as well as an additional 10 individuals. Based on these responses, the top 5 items were selected and finalised.

Last reviewed: March 2016

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About the Haematology Society of Australia and New Zealand
Founded in 1998, The Haematology Society of Australia and New Zealand (HSANZ) seeks to promote, foster, develop and assist the study and application of information concerning haematology, and to promote improved standards, interest and research in all aspects of haematology.

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5 THINGS
CLINICIANS AND CONSUMERS SHOULD QUESTION

Developed by the Human Genetics Society of Australasia

1. Don’t use brain magnetic resonance imagery (MRI) for routine surveillance of asymptomatic neurofibromatosis type 1

Neurofibromatosis type I (NF-1) is a tumour disorder caused by the mutation of a gene on chromosome 17 that is responsible for control of cell division. It causes tumours along the nervous system that can grow anywhere in the body. Routine screening investigations are not recommended for the detection of the majority of complications associated with the condition. Baseline brain and spine MRI, and routine imaging of the chest and abdomen to identify asymptomatic tumours, do not influence management and should not be undertaken.

2. Don’t undertake sequential testing for heterogeneous genetic disorders when targeted next generation sequencing (NGS) is available

A heterogeneous genetic disorder is one where the same disease or condition can be caused, or contributed to, by a number of different genes. The traditional strategy for genetic testing involves sequential sequencing of individual genes, selected according to the patient’s clinical presentation and family history. By contrast, next generation sequencing (NGS) involves the sequencing of millions of small fragments of DNA at the same time. Reductions in the cost of NGS now make it a more attractive solution for clinical diagnostic testing to identify the disease-causing mutation(s) in patients with genetically heterogeneous disorders than traditional sequential testing. In particular, the targeted NGS approach which restricts analysis to genes known to be implicated in a particular phenotype has been also successfully applied to heterogeneous disorders such as inherited peripheral neuropathy (IP).

3. Don’t undertake genetic testing for methylenetetrahydrofolate reductase (MTHFR), apolipoprotein E (APOE) and other such tests where the clinical utility for diagnostic purposes is extremely low

While genetic testing can help indicate susceptibility to particular genetic conditions, there are some conditions where the presence of particular alleles is neither necessary nor sufficient to cause the condition or where the alleles have a higher prevalence in the general population than the condition itself. This is the case for instance with apolipoprotein E as a genetic marker for Alzheimer’s disease and methylenetetrahydrofolate as a marker for venous thromboembolism.

To find out more or become involved:
Visit www.choosingwisely.org.au or follow twitter.com/ChooseWiselyAU or email choosingwisely@nps.org.au
4. Don’t undertake carrier state testing for rare recessive disorders where a partner has a family history, the couple is non-consanguineous and there are no common causative mutations.

With a rare recessive disorder, although the individual with the family history will have an increased risk of being a carrier, their unrelated partner will have a low general population risk. Therefore, their a priori combined risk of having a child with this rare recessive condition will generally be less than 1%. If the gene has no known common disease causative mutations then testing the unrelated partner for carrier status has low sensitivity and specificity.

5. Don’t undertake genetic testing when clinical diagnostic criteria exist and there are no reproductive or predictive testing implications.

Like other screening or diagnostic tests, genetic tests do not have inherent utility. It is the adoption of therapeutic or preventive interventions that influences health outcomes. If clinical diagnostic criteria already exist for the condition in question and there are no reproductive or other predictive testing implications as a result of definitively identifying a genetic cause for the condition, then this renders genetic testing unnecessary.
SUPPORTING EVIDENCE


HOW THIS LIST WAS MADE

A preliminary list was developed by the Lead Fellow which was then distributed to all the clinical geneticists in Australia who are all members of the Australasian Association of Clinical Geneticists (AACG), a special interest group of the HGSA. Following feedback the topic was revisited at a meeting of this group during the annual scientific conference of the HGSA, after which the list was finalised.

Current as at: October 2016
1. Avoid medication-related harm in older patients (>65 years) receiving 5 or more regularly used medicines by performing a complete medication review and deprescribing whenever appropriate.

Studies show that the risk of medication-related harm rises once the number of regularly prescribed medicines exceeds five; this risk increases exponentially as the number reaches eight or more. Medicines that deserve particular attention are benzodiazepines and other sedative-hypnotics, anti-psychotics, hypoglycaemic agents, antithrombotic agents, anti-hypertensives, and anti-anginal agents.

Trying to achieve aggressive treatment targets, such as BP <130/80 or HbA1c <7 per cent, in frail older patients with multiple co-morbidities confers little benefit and a higher risk of harm.

Discontinuation should be considered where past indications for specific medicines are no longer valid, the risk of harm outweighs the benefits within a patient’s remaining life span, or medicines are associated with past toxicity or non-adherence.

2. Don’t request daily full blood counts, erythrocyte sedimentation rate (ESR) or C-reactive protein (CRP) as measures of response to antibiotic treatment if patients are clinically improving.

The decision on whether or not to cease antibiotic treatment or switch from intravenous (IV) to oral antibiotics should be guided by the results of microbiological cultures indicating bacterial species and antimicrobial sensitivities, and evidence of defervescence and improved clinical status rather than by changes in the levels of white cell count (WCC) from a full blood count, C-reactive protein (CRP) or erythrocyte sedimentation rate (ESR).

However, these markers can help to predict poor prognosis in patients with severe infections in whom the clinical response may be difficult to determine (e.g. immnosuppressed patients or those who are critically ill or those at risk of drug-resistant hospital-acquired infections). In these cases, the failure of markedly elevated CRP and WCC to decrease by specified amounts would suggest that the antimicrobial therapy is not being effective. While no references could be found that explicitly support not using ESR or CRP in mild to moderate infections, available evidence suggests that their use is only of benefit in severe infections.
Patients with uncomplicated infections not requiring prolonged antibiotic therapy and with no high-risk features should be switched from intravenous (IV) to oral antibiotics once they are afebrile, clinically improving and able to tolerate oral medication. In hospital, this often occurs by day three. Exceptions to this rule are those suffering life threatening or deep-seated infections (such as suspected endocarditis, osteomyelitis or meningitis), and high risk patients (such as immunocompromised patients including from HIV, intravenous drug use, underlying advanced cancer, or documented multi-resistant bacteraemia or hospital-acquired infection).

There is no evidence to support the belief that oral medications are insufficiently bioavailable to be as effective as IV medications, or that the same agent must be used both IV and orally.

The scope for early IV-to-oral conversion has broadened, owing to the advent of newer, more potent oral agents that achieve higher and more consistent serum and tissue concentration. Moreover, earlier switchover from IV-to-oral therapy reduces the risk of cannula-related infections, carries no risk of thrombophlebitis, and allows for earlier discharge and reduced cost.

Holter monitoring, carotid duplex scans, echocardiography, electroencephalograms (EEGs) and telemetry have very low diagnostic yield in patients with uncomplicated syncope and no clinical features of, or risk factors for, the following:

- arrhythmia (e.g. palpitations preceding syncope, exertional syncope, unheralded syncope, history suggestive of heart failure or ischaemic heart disease)
- carotid stenosis (syncope would need to be associated with focal neurological symptoms or signs suggestive of transient ischaemic attack)
- cardiac valvular disorders (e.g. definite heart murmurs) or
- seizures (very rarely present as syncope with no other epileptic features e.g. tongue biting, urinary incontinence, post-ictal confusion, muscle pain).

Most syncopal episodes are vasovagal or secondary to postural hypotension for which careful history, and lying and standing blood pressure measurements are the most important diagnostic criteria combined with standard 12-lead ECG.
Don't request computerised tomography pulmonary angiography (CTPA) as first-choice investigation in non-pregnant adult patients with low risk of pulmonary thromboembolism (PTE) by Wells’ score (score <= 4); imaging can be avoided in low risk patients if D-dimer test is negative after adjusting for age.

The D-dimer test is highly sensitive for deep vein thrombosis and pulmonary thromboembolism, such that a negative result in non-pregnant adults (adjusted for age) rules out this condition in patients with low pre-test probability. A positive result is however non-specific and may be due to many other conditions apart from PTE. In ruling out PTE, D-dimer assay should be the first choice investigation in patients classified as being low risk according to the Wells’ score (equal to or less than 4).

These considerations are heightened by the risks associated with CTPA testing such as radiation exposure and incidental imaging findings, e.g. lung nodules and adrenal lesions that may provoke further investigations and diagnosis of isolated small subsegmental emboli whose natural history is unknown and for which anticoagulation is not yet shown to be of benefit. There is, however, a 1 – 3% failure rate with a low risk Wells’ score and negative D-dimer prediction method, so close follow-up is indicated in all patients in whom a D-dimer has been requested.

For a more detailed explanation of this recommendation please refer to the website.
SUPPORTING EVIDENCE


HOW THIS LIST WAS MADE

A panel of IMSANZ members produced an initial list of 32 low value tests, treatments and management decisions frequently encountered in general medicine services. This initial list was distributed via e-mail to 350 members of a working group comprising approximately 50 general physicians as well as nurses and allied health professionals who ranked the items in terms of priority and were free to nominate additional items. Based on their responses, the list was condensed to 15 items including three which were not previously listed. These 15 items were the subject of a face-to-face forum of the working group which reached consensus on a final list of 10.

Recommendations on ‘what not to do’ were formulated around these 10 items and a summary of the evidence for each recommendation was prepared. An online survey based on this work was presented to, and approved by, IMSANZ Council. The survey was sent to all IMSANZ members asking respondents to assign a score from 1 to 5 for each recommendation on three criteria: ‘The clinical practice being targeted by this recommendation is still being undertaken in significant numbers’; ‘This recommendation is evidence-based’; and ‘This recommendation is important in terms of reducing harm to patients and/or costs to the healthcare system’. The survey attracted 182 respondents from all across Australia and New Zealand, which was a response rate of 26%. The final top five chosen were the recommendations with the five highest average total scores assigned to them.

Last reviewed: August 2017
The vast majority of children presenting with fever do not have a bacterial infection and therefore will not benefit from being prescribed oral antibiotics. For instance, one study of febrile infants found overall bacteraemia frequency of well below one per cent. Sometimes, in exception to this, oral antibiotics are prescribed to treat an unapparent bacterial infection or prevent development of severe bacterial infection and appear to have beneficial effects, though even the significance of these effects is disputed. Given that inappropriate prescribing of antibiotics is a major cause of antibiotic resistance and antibiotics have adverse effects, it is not considered good clinical practice to prescribe antibiotics in children without a specific bacterial infection.

Do not routinely prescribe oral antibiotics to children with fever without an identified bacterial infection

Chest X-rays Chest X-rays for patients with acute lower respiratory tract infections rarely affect clinical treatments and outcomes. Chest X-ray films do not discriminate well between bronchiolitis and other forms of lower respiratory tract infection and in mild cases do not offer information that is likely to affect treatment. It is estimated that 133 children with typical bronchiolitis would have to undergo radiography to identify one radiograph that is suggestive of an alternate diagnosis.

Salbutamol With the exception of improving clinical scores in infants treated as outpatients, the evidence overwhelmingly shows that bronchodilators, including salbutamol, do not improve oxygen saturation, reduce hospital admissions or shorten the duration of hospitalisation and time to resolution of illness in children with bronchiolitis. Compared with these minimal benefits, salbutamol is associated with adverse impacts such as tachycardia, oxygen desaturation and tremors. If a bronchodilator is required, epinephrine appears to be a superior alternative to salbutamol in reducing the severity of bronchiolitis.

Steroids The majority of randomised controlled trials have not found a clinically relevant, sustained impact of systemic or inhaled glucocorticoids on admissions or length of hospitalisation in children with bronchiolitis or other forms of lower respiratory tract infection.
**3** Do not routinely order chest X-rays for the diagnosis of asthma in children

There is extensive evidence that the majority of X-rays ordered for children admitted for asthma and wheezing disorders do not provide clinically relevant information and therefore do not contribute to their diagnosis and management.

Clear clinical criteria outlining the indications for X-rays in asthma should be defined to avoid unwarranted chest X-rays in children with acute wheeze.

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**4** Do not routinely treat gastroesophageal reflux disease (GORD) in infants with acid suppression therapy

Gastroesophageal reflux is common in preterm infants, infants and children and uncomplicated gastroesophageal reflux typically does not require medical therapy. However, gastroesophageal reflux may evolve into gastroesophageal reflux disease (GORD), a condition where the persistent leaking of stomach contents back into the oesophagus results in heartburn and other troublesome symptoms. Proton pump inhibitors (PPI) are sometimes prescribed in cases of GORD to achieve a pronounced and long-lasting reduction of gastric acid production.

However, numerous randomised controlled trials have concluded that PPIs are no more effective than placebo in treating GORD in infants, though there is some evidence (of moderate quality) of their effectiveness in treating GORD in older children. Moreover, there is still a paucity of trials confirming the long term safety of PPI use in children more generally while there is considerable evidence that PPIs have significant negative side effects such headache, diarrhoea, constipation, nausea, increased rates of infection and increased rates of food allergy.

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**5** Do not routinely order abdominal X-rays for the diagnosis of non-specific abdominal pain in children

Retrospective studies of medical records of children and adults admitted for constipation and other forms of non-specific abdominal pain conclude that in only a very small minority (under 5%) of cases do abdominal X-rays make a difference in patient treatment. A recent study also showed that abdominal X-rays were performed more frequently in misdiagnosed children. Numerous studies yield significantly varying estimates of the sensitivity and specificity of abdominal x-rays and insufficient evidence of a diagnostic association between symptoms of constipation and faecal loading seen on abdominal X-rays. There is significant scope for reducing the number of abdominal X-rays performed without sacrificing diagnostic accuracy for children with abdominal pain.
SUPPORTING EVIDENCE


HOW THIS LIST WAS MADE

The Paediatrics & Child Health Division (PCHD) formed a group of interested Fellows to comprise a General Paediatrics EVOLVE Working Group. A review of low-value practices relevant to general paediatrics was conducted drawing on lists published by Choosing Wisely US and Canada, contributions to Choosing Wisely Australia by other medical colleges and published EVOLVE lists developed by other specialties in order to identify low-value practices of relevance while avoiding duplicating the mention of practices already identified in other EVOLVE lists. Based on this review, the Working Group shortlisted 15 items for further consideration. These 15 items were then reviewed and discussed by participants at a workshop held at the RACP Annual Congress 2016. Following these deliberations, the list was further narrowed down to 10 items. These 10 items were incorporated into an online survey which also summarised the recent evidence on each of these items. A link to the survey was distributed to all Fellows and advanced trainees of the RACP Paediatrics & Child Health Division. Survey respondents were asked whether they agreed, disagreed or were unsure about whether each item was undertaken in a significant number of paediatric patients, whether there was good evidence that the item should be undertaken less often and whether reducing use of the item was important in terms of reducing harm and/or costs to the healthcare system. Each item was assigned a score based on respondents’ answers to these three questions on each item. There were 269 respondents representing a survey response rate of approximately 22 per cent. The five highest scoring items were selected to be on this ‘top-five’ list.

Last reviewed: August 2017

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About the Paediatrics & Child Health Division
The Paediatrics & Child Health Division represents 5,000 Fellows and trainees of The Royal Australasian College of Physicians (RACP). We aim to improve the health and wellbeing of neonates, infants, children and young people through education and training, research, and policy and advocacy.

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The proportion of patients presenting with inguinal hernias who are suffering significant co-morbidities is increasing. In these populations and in the presence of multiple co-morbidities, the importance of carefully assessing the risks and benefits of surgical intervention is vital. Studies have shown that adoption of a watch and wait approach does not heighten the risk of the patient developing more severe symptoms. In cases of minimally symptomatic and asymptomatic inguinal hernias, the patient’s prognosis and long term health may be improved by non-surgical intervention. Ongoing surgical review is required to ensure that an individual’s condition is monitored and that a re-evaluation of their surgical need is made should their symptoms increase in severity.

Don't perform repair of minimally symptomatic or asymptomatic inguinal hernias without careful consideration, particularly in patients who have significant co-morbidities.

The role of ultrasound in the diagnosis and treatment of groin hernias is limited. When the clinical diagnosis of a groin hernia is uncertain, any sonographic findings should be interpreted in conjunction with clinical judgment and treated conservatively. The diagnostic accuracy of ultrasound is reduced in the absence of any clinically palpable hernia.

Do not use ultrasound for the further investigation of clinically apparent groin hernias. Ultrasound should not be used as a justification for repair of hernias that are not clinically apparent.

Don't transfuse more units of blood than absolutely necessary, noting that many hospitals have developed policies on indications for transfusion with a view to minimisation.

The limited blood resources available within the health system and the lack of evidence to support transfusing more blood than required necessitate the use of appropriate guidelines. Patients should be carefully evaluated (through use of applicable guidelines) when being assessed for blood transfusions and closely monitored.
4 Do not use endoscopy for investigation in gastric band patients with symptoms of reflux.

The treatment of reflux in gastric band patients should be carefully considered. Endoscopy should not be used without consideration of alternative strategies. Reflux in gastric band patients is often related to the device. It is best managed by removal of fluid, in consultation with a Bariatric Surgeon or other appropriately qualified person.

5 Don’t do computed tomography (CT) for the evaluation of suspected appendicitis in children and young adults until after ultrasound has been considered as an option.

Although CT is accurate in the evaluation of suspected appendicitis in the pediatric population, ultrasound is a good diagnostic tool that will reduce radiation exposure. Ultrasound is the preferred initial consideration for imaging examination in children and young adults. If the results of the ultrasound exam are equivocal, it may be followed by CT.
SUPPORTING EVIDENCE


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About the Royal Australasian College of Surgeons
RACS is the leading advocate for surgical standards, professionalism and surgical education in Australia and New Zealand. The College is a not-for-profit organisation that represents more than 7000 surgeons and 1300 surgical trainees and International Medical Graduates. RACS also supports healthcare and surgical education in the Asia-Pacific region and is a substantial funder of surgical research.

About General Surgeons Australia
General Surgeons Australia is a not-for-profit organisation founded in 1999, that is committed to promoting both high quality training and the continuing medical education of its members.

HOW THIS LIST WAS MADE
RACS and General Surgeons Australia (GSA) collaborated on the development of a list for Choosing Wisely Australia. Each organisation worked closely with key members including the Sustainability in Healthcare Committee and Professional Development and Standards Board (RACS), and Board of Directors (GSA) to develop a list of tests/treatments/procedures for general surgery.

Last reviewed: March 2017

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5 THINGS
CLINICIANS AND CONSUMERS SHOULD QUESTION

Developed by the Royal Australasian College of Surgeons
The Australian Society of Otolaryngology Head and Neck Surgery

1. Don't order computed tomography (CT) scan of the head/brain for sudden hearing loss

Computed tomography scanning is expensive, exposes the patient to radiation and offers no useful information that would improve initial management. CT scanning may be appropriate in patients with focal neurologic findings, a history of trauma or chronic ear disease.

Sudden hearing loss is distinct from progressive loss and chronic ear disease. Sudden sensorineural hearing loss (SSHL) can be described as at least 30dB sensorineural hearing loss (SNHL) in at least three consecutive frequencies within a three-day period.

2. Don't prescribe oral antibiotics for uncomplicated acute discharge from grommets

Oral antibiotics have significant adverse effects and do not provide adequate coverage of the bacteria that cause most episodes; in contrast, topically administered products do provide coverage for these organisms. Avoidance of oral antibiotics can reduce the spread of antibiotic resistance and the risk of opportunistic infections.

A discharge is uncomplicated when it is not associated with any other symptom, for example fever, pain or swelling of the ear canal.

3. Don't prescribe oral antibiotics for uncomplicated acute otitis externa

Oral antibiotics have significant adverse effects and do not provide adequate coverage of the bacteria that cause most episodes; in contrast, topically administered products do provide coverage for these organisms. Avoidance of oral antibiotics can reduce the spread of antibiotic resistance and the risk of opportunistic infections.

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4. **Don’t routinely obtain radiographic imaging for patients who meet diagnostic criteria for uncomplicated acute rhinosinusitis**

Imaging of the paranasal sinuses, including plain film radiography, computed tomography (CT) and magnetic resonance imaging (MRI) is unnecessary in patients who meet the clinical diagnostic criteria for uncomplicated acute rhinosinusitis. Acute rhinosinusitis is defined as up to four weeks of purulent nasal drainage (anterior, posterior or both) accompanied by nasal obstruction, facial pain-pressure-fullness or both. Imaging is costly and exposes patients to radiation. Imaging may be appropriate in patients with a complication of acute rhinosinusitis, patients with comorbidities that predispose them to complications and patients in whom an alternative diagnosis is suspected.

5. **Don’t obtain computed tomography (CT) or magnetic resonance imaging (MRI) in patients with a primary complaint of hoarseness prior to examining the larynx**

Examination of the larynx with mirror or fibre optic scope is the primary method for evaluating patients with hoarseness. Imaging is unnecessary in most patients and is both costly and has potential for radiation exposure. After laryngoscopy, evidence supports the use of imaging to further evaluate 1) vocal fold paralysis, or 2) a mass or lesion of the larynx.

It is essential to have the larynx examined by a specialist if the hoarseness has not resolved within 4 weeks.
SUPPORTING EVIDENCE


HOW THIS LIST WAS MADE

RACS and The Australian Society of Otolaryngology Head and Neck Surgery (ASOHNS) collaborated on the development of a list for Choosing Wisely Australia. Each organisation worked closely with key members including the Sustainability in Healthcare Committee and Professional Development and Standards Board (RACS), and Board of Directors (ASOHNS) to develop a list of tests/treatments/procedures for head and neck surgery.

Last reviewed: March 2017
1. **Do not perform a D-Dimer test for the exclusion of venous thromboembolism during any trimester of pregnancy.**

As D-dimer levels are raised during pregnancy, they do not have a high positive predictive value for venous thromboembolism (VTE) in pregnancy (i.e., they are unreliable for ruling in VTE in pregnancy). However, nor are they a reliable rule-out test for VTE. One study estimated the sensitivity of the D-Dimer test at 73 per cent, meaning that 27 per cent of patients with a negative D-Dimer had VTE. There have also been case reports of pregnant women with pulmonary embolism presenting with a negative D-Dimer. Therefore, there is no value in performing a D-Dimer test for the exclusion of venous thromboembolism at any trimester in pregnancy.

2. **Do not test for inherited thrombophilia for placental mediated complications.**

While older retrospective studies suggested that inherited thrombophilia is associated with adverse pregnancy outcomes such as stillbirth, recurrent miscarriage and placental abruption, more recent and more rigorous studies have either failed to find an association or have found only a weak association. Moreover, the association is a moot point as there is now good quality evidence from randomised controlled trials that low-molecular-weight heparin does not significantly reduce the rate of placental mediated complications.

3. **Do not do repeat testing for proteinuria in established pre-eclampsia.**

Measuring proteinuria is useful as a diagnostic but not as a prognostic criterion for pre-eclampsia. This is because the level of proteinuria does not correlate with the severity of maternal complications in women with pre-eclampsia, nor are these levels useful in determining the timing of delivery. Thus, repeat testing for proteinuria in managing established pre-eclampsia is not recommended, particularly given the availability of superior prognostic models.
Do not undertake methylenetetrahydrofolate reductase (MTHFR) polymorphism testing as part of a routine evaluation for thrombophilia in pregnancy

Patients with the thermolabile variant of the methylenetetrahydrofolate reductase (MTHFR) polymorphism are at higher risk of hyperhomocysteinaemia which has been associated with venous thrombosis. However, these associations appear to hold only in countries lacking grain products nutritionally fortified as a public health measure. Moreover, homozygous variants are found in up to 15 per cent of some populations, so that detection of this variant would lead to many women undergoing complex counselling unnecessarily and may also be a cause of distress. Polymorphism is not more prevalent in women with pregnancy-associated venous thromboembolism and testing for this polymorphism is not recommended as part of a routine evaluation for thrombophilia in pregnancy.

Do not measure erythrocyte sedimentation rate (ESR) in pregnancy

Measuring the erythrocyte sedimentation rate (ESR) is a non-specific test to identify inflammation. An elevated result indicates inflammation but does not indicate where it is in the body or the cause. The normal range outside of pregnancy in women aged 18–50 is <20mm/h. One study found that levels varied 4–70mm/h and another found a range from 4-112mm/h, with levels being affected by gestational age and haemoglobin concentration. This is likely to reflect normal changes in pregnancy, meaning that testing for an elevated ESR does not sufficiently differentiate between healthy pregnant women and those who may be suffering from inflammatory diseases.
**SUPPORTING EVIDENCE**


HOW THIS LIST WAS MADE

SOMANZ Council members considered potential low value clinical practices in obstetric medicine of relevance to SOMANZ members, and developed a shortlist of nine items. Council members then worked with the RACP to compile and review the published research on each of these practices. Based on the review, the list of potential items of interest was refined down to seven and recommendations for these were formulated.

All Fellows and advanced trainees of SOMANZ were surveyed online for their views on these seven draft recommendations and provided with evidence summaries for each, and for their suggestions of other practices not already included. They were asked to score each recommendation based on whether they thought it was evidence based, currently undertaken in significant volume, and important for reducing harms and/or unnecessary healthcare costs. Based on the scores and feedback, the final top-five recommendations were then finalised and approved by SOMANZ Council.

Last reviewed: August 2017
Bilateral lower leg cellulitis is very rare. Most commonly the redness is due to an underlying inflammatory skin disorder such as venous eczema or a more deeply extending inflammation involving the subcutaneous fat known as lipodermatosclerosis. This condition, which occurs more frequently in patients with venous disease, who are overweight and immobile, may initially present as bilateral redness and swelling, and then progresses over time to produce scarring and hardening of the underlying tissues.

A careful history and physical examination should be undertaken. An entry point for infection should be looked for, and swabs taken from open skin wounds. However, microbiological testing from intact overlying skin is usually of little value.

Do not assume that bilateral redness and swelling of both lower legs is due to infection unless there is clinical evidence of sepsis such as malaise, fever and neutrophilia, plus an expanding area of redness or swelling over a period of hours to days.

The inflammation is secondary to an intense foreign body reaction to the cyst contents leaking into adjacent tissues and will respond to incision and drainage. The use of intralesional corticosteroid injections has been suggested, but there are no formal studies to support this practice. Although oral antibiotics are often prescribed, there is no evidence on which to base recommendations for their routine use in this setting.
3. Acute urticaria (i.e. of less than 6 weeks duration) does not routinely require investigation for an underlying cause. Where clinical history and examination suggest the possibility of a bacterial infection or food as a likely trigger, further testing may be warranted. If individual lesions (weals) persist for longer than 24 hours an alternative diagnosis may need to be considered.

The individual weals of acute urticaria and angioedema can be widespread and variable in appearance, resolving in 24 hours leaving normal skin. In children, upper respiratory tract and viral infections are the most common cause of acute urticaria. Foods and medications such as antibiotics and nonsteroidal anti-inflammatory drugs are possible triggers in all age groups. Thus the cause of acute urticaria is usually suggested by a patient’s history without the need for routine blood investigations.

4. Do not prescribe topical or systemic anti-fungal medication for patients with thickened, distorted toenails unless mycological confirmation of a dermatophyte infection has been obtained.

Fifty percent of thickened distorted toenails are caused by age, pressure from footwear (onychogryphosis) or other trauma, or associated with inflammatory disorders such as psoriasis or lichen planus, and are not due to a fungal infection.

5. Monotherapy for acne with either topical or systemic antibiotics should be avoided.

In light of concerns about antibiotic resistance, the treatment of acne with topical or oral antibiotics should be in combination with agents such as benzoyl peroxide or retinoids and prolonged use should be avoided.
SUPPORTING EVIDENCE

Arakaki RY, Strazzula L, Woo E, Kroshinsky D. The impact of dermatology consultation on diagnostic accuracy and antibiotic use among patients with suspected cellulitis seen at outpatient internal medicine offices: a randomized clinical trial. JAMA Dermatology 2014;150(10):1056-61.


HOW THIS LIST WAS MADE

A long-standing College Fellow, in consultation with the Honorary Secretary prepared 5 recommendations. All ACD members were invited to choose three out of the five recommendations. Following an NPS Representatives meeting, it was noted that five recommendations are needed. Therefore the remaining two recommendations were selected.

Current as at: October 2016

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About The Australasian College of Dermatologists
The Australasian College of Dermatologists was established in 1966 as the medical college responsible for the training and professional development of medical practitioners in the speciality of dermatology.

About NPS MedicineWise
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5 THINGS CLINICIANS AND CONSUMERS SHOULD QUESTION

Developed by the Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists

1. Recognise and stop the prescribing cascade

A prescribing cascade occurs when a new medicine is prescribed to ‘treat’ an adverse reaction to another drug in the mistaken belief that a new medical condition requiring treatment has developed. Prescribing cascades should be avoided because they are associated with adverse outcomes due to the second or additional drugs, which places the patient at risk. One example of a prescribing cascade is when a patient is prescribed a non-steroidal drug for pain, and is then prescribed proton pump inhibitors (PPIs) to reduce the risk of stomach side effects caused by the first prescribed drug.

As prescribing cascades are precipitated by adverse drug reactions, they can be prevented by avoidance and early detection of the initial adverse drug reaction. For instance, many adverse drug reactions in the elderly are dose-related. It is advised that starting treatment at low doses and titrating to effect may reduce their risk. Most adverse drug reactions occur within a few months of starting a medicine. Clinicians should consider the potential for an adverse drug reaction to be the cause of any new symptoms, particularly if a drug has been recently started or changed. Patients should be asked about new symptoms, as many patients do not report adverse drug reactions. When such reactions occur, non-drug treatment strategies should be considered as the most appropriate first-line management, rather than starting a second medicine to counteract adverse effects.

2. Reduce the use of medicines when there is a safer or more effective non-pharmacological management strategy

Pharmacological treatments should be avoided or minimised if safer or more effective nonpharmacological alternatives are available. Pharmacological treatments may become a panacea for chronic lifestyle-related problems, and may detract from behaviour management tools that have proven effective in managing these same problems.

There is also a risk of adverse effects from particular pharmacological treatments which may be avoidable by using non-pharmacological management strategies. For instance, physiotherapy should be used instead of oxycodone for addressing non-cancer pain, because of the risk of adverse effects. Another example is the use of psychotropic medicines for behavioural and psychological symptoms of dementia when non-pharmacological management strategies are both more effective and safer.

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3 Avoid using a higher or lower dose than is necessary for the patient to optimise the ‘benefit-to-risk’ ratio and achieve the patient’s therapeutic goals

Therapeutic dosage should be adjusted to optimise the benefit-to-risk ratio of the treatment. Dosage should be no higher or lower than needed to achieve the patient’s therapeutic goals. As patients become more frail, potential harms usually increase and potential benefits usually decrease for a given dosage of pharmacological treatment. For example, carefully assessing the risk and benefits when initiating non-steroidal inflammatory drugs in elderly patients is important, because of the increased risk of stroke associated with NSAID therapy; and use of proton pump inhibitors in the elderly should be stepped down after an initial course of therapy. Related to this, high drug doses are not necessarily more effective than low doses. An example of this is the relationship between doses of a selective serotonin re-uptake inhibitor for patients with major depressive disorder and useful clinical improvements.

4 Stop medicines when no further benefit will be achieved or the potential harms outweigh the potential benefits for the individual patient

Pharmacological treatments should cease when there are no further benefits to be achieved from the treatment, or when the potential harms from the treatment start to outweigh the potential benefits. This is particularly pertinent for elderly patients with a limited life expectancy where the treatments are unlikely to prevent disease events, and may in fact lead to adverse effects that reduce quality of life. These patients are at an increased risk of polypharmacy and increased drug events. For example, bisphosphonate treatment should not be administered to patients living in residential aged care facilities when these patients are already too frail to swallow drugs or have a life expectancy which is significantly less than 12 months.

5 Reduce use of multiple concurrent therapeutics (hyper-polypharmacy)

Polypharmacy — defined as five to nine medications taken regularly — is common among elderly patients. However, patients who are prescribed with multiple, concurrent therapeutics (i.e. hyper-polypharmacy) may be on ten or more drugs at time.

Research has confirmed a significant association between polypharmacy and adverse outcomes among older people living in the community because the toxicities and side effects associated with prescribed drugs are accrued over many years.

Polypharmacy in older people is associated with decreased physical and social functioning; increased risk of falls, delirium and other geriatric syndromes; hospital admissions; and, death.
SUPPORTING EVIDENCE

   Kalisch LM, Caughey GE, Roughead EE, Gilbert AL. The prescribing cascade. Australian Prescriber 2011;34;162-166.


HOW THIS LIST WAS MADE

A working party of members of the Australasian Society of Clinical and Experimental Pharmacologists and Toxicologists (ASCEPT) was established to propose an initial list of recommendations. ASCEPT’s membership was then invited to participate in an online survey to comment on the appropriateness of the proposed recommendations and suggest additional items for consideration.

Based on the survey responses, six recommendations were shortlisted. Following an evidence review the top 5 list items were selected. The final list was signed off by the ASCEPT President in April 2016.

Last reviewed: August 2016
5 Things Physiotherapists and Consumers Should Question

1. Don't request imaging for patients with non-specific low back pain and no indicators of a serious cause for low back pain
   Trials have consistently shown that there is no advantage from routine imaging of non-specific low back pain, and there are some potential harms. Imaging is instead recommended for cases of low back pain where there is a suspicion of an underlying medically serious disease, like cancer or infection. In people who present to primary care with low back pain, medically serious disease is uncommon. Patients with a higher likelihood of medically serious disease as the cause of their low back pain can be identified by red flags, like a history of cancer. A recent Australian study revealed that most people experiencing acute low back pain expect imaging, believing it will identify the cause of their pain and so was considered a prerequisite for effective care. These views conflict with the available evidence on imaging.

2. Don't request imaging of the cervical spine in trauma patients, unless indicated by a validated decision rule
   Cervical spine imaging of every trauma patient is costly and results in significant radiation exposure to a large number of patients, very few of whom will have a spinal column injury. The Canadian C-Spine rule identifies patients who can safely be managed without imaging with high sensitivity.

3. Don't request imaging for acute ankle trauma unless indicated by the Ottawa Ankle Rules (localised bone tenderness or inability to weight-bear as defined in the Rules)
   Most clinically significant acute ankle injuries can be diagnosed with history, examination, and selective use of plain radiography. The Ottawa Ankle Rules dictate selective use of plain radiography in patients with acute ankle injury is useful in identifying patients who have sustained clinically important fracture, dislocation, and osteochondral injuries. However, acute ligamentous injuries involving the anterior talofibular ligament can be diagnosed clinically and treated symptomatically. When there are persistent symptoms, which raise suspicion of either instability or other internal derangement such as osteochondral injury, MRI can be used if the non-urgent weight bearing x-rays show no abnormality.

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Don’t routinely use incentive spirometry after upper abdominal and cardiac surgery.

Postoperative pulmonary complications occur in ~40% of patients undergoing open coronary artery surgery and upper abdominal surgery. A Cochrane review of 592 open coronary artery surgery patients found no significant benefit of incentive spirometry over no treatment for atelectasis, pneumonia, or length of hospital stay. Another Cochrane review of 1834 upper abdominal surgery patients found no significant benefit on pulmonary complication risk of incentive spirometry over no treatment, deep breathing exercises, or other physiotherapy. Further research into incentive spirometry could be conducted, particularly in some subgroups such as high-risk patients. However, these Cochrane reviews identify a substantial pool of existing evidence that has not demonstrated any benefits of incentive spirometry. Other interventions, such as preoperative inspiratory muscle training do improve postoperative outcomes in these patients, when added to established standard care such as early mobilisation. Therefore, until evidence of a benefit from incentive spirometry becomes available, it is recommended that it not be routinely used in these surgical populations.

Avoid using electrotherapy modalities in the management of patients with low back pain

Although used in clinical practice for many years, current evidence-based clinical practice guidelines do not endorse electrotherapy modalities (such as ultrasound, laser, interferential) in the management of low back pain, due to lack of evidence of effects on clinically relevant outcomes. Instead, patients with (sub)acute low back pain should be reassured of a favourable prognosis, advised to stay active, and be referred for prescribed analgesia if necessary. For chronic low back pain, helpful interventions include short-term use of medication/manipulation/acupuncture, supervised exercise therapy, cognitive behavioural therapy and multidisciplinary treatment.

Don’t provide ongoing manual therapy for patients with adhesive capsulitis of the shoulder

Adhesive capsulitis (also termed frozen shoulder) is a condition characterised by spontaneous onset of pain, progressive restriction of movement of the shoulder and disability that restricts activities of daily living, work and leisure. Most studies indicate that it is a self-limiting condition lasting up to two to three years, although 40% people may experience clinically detectable restriction of movement and disability beyond this time point without significant pain. Well-designed randomised trials have not demonstrated any worthwhile clinical benefits for ongoing physiotherapy beyond the benefits of a simple home exercise program.
SUPPORTING EVIDENCE


10. Webster BS, Choi YS, Bauer AZ, Cifuentes M, Pransky G. The Cascade of Medical Services and Associated Longitudinal Costs Due to Nonadherent Magnetic Resonance Imaging for Low Back Pain Spine 2014;39:1433-1440.


HOW THIS LIST WAS MADE

The APA sought nominations from fellows and associates of the Australian College of Physiotherapy, directors of the Physiotherapy Evidence Database, clinical specialist APA members and academic physiotherapists to form an expert panel. The APA invited all members to submit evidence about interventions related to physiotherapy that should be questioned. From members’ submissions and the expert group’s research, the expert group formed a shortlist of 8 recommendations. The expert group then considered the shortlist in terms of the extent of the health problem, usage of the test or intervention, and the evidence that the test or intervention is inappropriate. From this analysis, the expert panel selected five recommendations to put to APA members. In a second round of consultation, the APA received nearly 2500 responses, and almost 900 comments. The expert panel then considered feedback and refined the recommendations. This resulted in the 6 recommendations put forward below, for which there was overwhelming majority support.

Last reviewed: March 2016
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About Australian Physiotherapy Association (APA)
The Australian Physiotherapy Association (APA) is the peak body representing the interests of Australian physiotherapists and their patients. The APA is a national organisation with non-autonomous state and territory branches and specialty subgroups. The organisation has more than 19,000 members and over 300 members in volunteer positions on committees or working parties.

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Thyroid ultrasound is used to identify and characterize thyroid nodules, and is not part of the routine evaluation of abnormal thyroid function tests (over- or underactive thyroid function) unless the patient also has a palpably large goitre or a nodular thyroid. Incidentally discovered thyroid nodules on ultrasound are common. Overzealous use of ultrasound will frequently identify nodules, which are unrelated to the abnormal thyroid function, and may divert the clinical evaluation to assess the nodules, rather than the thyroid dysfunction, may lead to further unnecessary investigation, unwarranted patient anxiety and increased costs. Imaging may be needed in thyrotoxic patients; when needed, a radionuclide thyroid scan, not an ultrasound, is used to assess the aetiology of the thyrotoxicosis and the possibility of focal autonomy in a thyroid nodule or nodules.

Don’t routinely order a thyroid ultrasound in patients with abnormal thyroid function tests if there is no palpable abnormality of the thyroid gland

Many of the symptoms attributed to male hypogonadism are commonly seen in normal male aging or in the presence of comorbid conditions. Testosterone therapy has the potential for serious side effects and represents a significant expense. It is therefore important to confirm the clinical suspicion of hypogonadism with biochemical testing. Current guidelines recommend the use of a total testosterone level obtained in the morning. A low level should be confirmed on a different day, again measuring the total testosterone. In some situations, for example, conditions in which sex hormone-binding globulin concentrations are altered, a calculated free or bioavailable testosterone may be of additional value.

Don’t prescribe testosterone therapy unless there is evidence of proven testosterone deficiency

Measurement of insulin either in the fasting state or during an oral glucose tolerance test is not a clinically useful method (and may be costly because of the insulin assay) to estimate insulin sensitivity. The hyperinsulinemic-euglycemic (HIEG) clamp is the gold standard for assessing insulin sensitivity as it is possible to assess tissue specific sensitivity and can be used in all types of populations. This feature is important because a method of standardisation must be developed to control for various factors prior to any methods for measurement.

Do not measure insulin concentration in the fasting state or during an oral glucose tolerance test to assess insulin sensitivity
4. Avoid multiple daily glucose self-monitoring in adults with stable type 2 diabetes on agents that do not cause hypoglycaemia

Once target control is achieved and the results of self-monitoring become quite predictable, there is little gained in most individuals from repeatedly confirming. There are many exceptions, such as for acute illness, when new medications are added, when weight fluctuates significantly, when A1c targets drift off course and in individuals who need monitoring to maintain targets. Self-monitoring is beneficial as long as one is learning and adjusting therapy based on the result of the monitoring.

5. Don't order a total or free T3 level when assessing thyroxine dose in hypothyroid patients

T4 is converted into T3 at the cellular level in virtually all organs. Intracellular T3 levels regulate pituitary secretion and blood levels of thyroid-stimulating hormone (TSH), as well as the effects of thyroid hormone in multiple organs; a normal TSH indicates an adequate T4 dose. Conversion of T4 to T3 at the cellular level may not be reflected in the T3 level in the blood. Compared to patients with intact thyroid glands, patients taking T4 may have higher blood T4 and lower blood T3 levels. Thus the blood level of total or free T3 may be misleading (low normal or slightly low); in most patients a normal TSH indicates a correct dose of T4.
SUPPORTING EVIDENCE

   Brito JP. Thyroid cancer: zealous imaging has increased detection and treatment of low risk tumours. British Medical Journal 2013;347.
   Bahn CRS. Hyperthyroidism and other causes of thyrotoxicosis: management guidelines of the American Thyroid Association and American Association of Clinical Endocrinologists. Thyroid 2011;21:593-646.


   Teede HJ. Assessment and management of polycystic ovary syndrome Medical Journal of Australia 2011;195(6).

   International Diabetes Federation 2009, Guideline: Self-Monitoring of Blood Glucose in Non-Insulin Treated Type 2 Diabetes.

HOW THIS LIST WAS MADE

The Medical Affairs sub-committee of the Endocrine Society of Australia (ESA) collaborated with the Royal Australasian College of Physicians (RACP) to compile a list of 44 possible low-value interventions using desktop research. The list was examined and refined down to 8 interventions: comprising 6 that were deemed sufficiently common or important to warrant consideration and two additional practices identified by the committee. A review of the evidence for these 8 was completed and circulated to the whole ESA membership for feedback via an on-line survey. Based on the results of the survey, which attracted 146 respondents, a top 5 was identified.

Last reviewed: March 2016
When a patient’s visual symptoms can be explained by simple refractive error and a comprehensive eye examination including slit lamp, extraocular movements, intraocular pressures, fundoscopy and confrontation visual fields is normal, there is no need for further tests. There are occasional exceptions – eg if the patient is specifically being reviewed in relation to an inherited retinal or optic nerve disorder, or as screening or baseline for drug-related toxicity.

When testing for driving eligibility, the confrontation method is acceptable to screen for visual field defects. Automated perimetry is only required when significant field defects are suspected.

As in almost all branches of medicine, history and examination precede investigations and not the other way around.

The AREDS studies were randomised controlled trials which demonstrated benefit for specific combinations of supplements for certain subtypes of age-related macular degeneration (AMD). They did not show benefit for patients without AMD, and have not been tested for retinal conditions other than AMD. There is no high-level evidence to support the use of dietary supplements for the prevention or treatment of other retinal conditions, assuming a normal diet and the absence of specific vitamin or other nutrient deficiency. Despite this, there is widespread promotion and use of dietary supplements perceived to have benefits for other retinal diseases.
**3. Don’t prescribe tamsulosin or other alpha-1 adrenergic blockers without first asking the patient about a history of cataract or impending cataract surgery**

Alpha-1 adrenergic blockers such as tamsulosin nearly always affect the structural integrity of the iris and this can be permanent after only a few doses of the drug. As a result, “intraoperative floppy-iris syndrome” often results when intraocular surgery, especially cataract surgery, is performed. This can lead to iris damage and post-operative glare problems but also increase the risk of more serious complications such as posterior capsule rupture, vitreous loss, macular oedema and retinal detachment. This risk is up to ten times greater in some series.

Surgeons can minimise the risk if they know a patient has taken the drug. Patients on long waiting lists can sometimes forget to tell the ophthalmologist they have been prescribed it whilst waiting for surgery. Better still, if the need for taking tamsulosin is not absolute and immediate, delaying its prescription until after any impending cataract surgery is performed would be in the patient’s best interest.

**4. Intravitreal injections may be safely performed on an outpatient basis. Don’t perform routine intravitreal injections in a hospital or day surgery setting unless there is a valid clinical indication**

Studies show that giving intravitreal injections, most commonly anti-VEGF agents for “wet” macular degeneration, can be safely done in an outpatient setting if standard, well published protocols are followed. These protocols include the use of standard aseptic technique, topical antiseptic in the conjunctival sac, and a face mask. Performing these injections in a hospital or day surgery adds enormous cost to the procedure for no clinical benefit. This cost, initially borne by private health funds, clearly puts pressure on the sustainability of the private health system and contributes to the need to increase health insurance premiums and to reduce benefits for other procedures.

**5. In general there is no indication to perform prophylactic retinal laser or cryotherapy to asymptomatic conditions such as lattice degeneration (with or without atrophic holes), for which there is no proven benefit**

Lattice degeneration and related asymptomatic retinal conditions are frequently found in eyes with retinal detachment. Intuitively one would expect that prophylactic treatment of such visible areas of abnormality would reduce the risk of retinal detachment, and such treatments used to be commonplace. The available evidence has, however, failed to demonstrate any convincing benefit, and there are also significant potential side effects to such treatment. One reason for the absence of demonstrated benefit is the frequent occurrence of retinal breaks outside areas of visible abnormality. With occasional exceptions, there is no justification for such treatment in asymptomatic eyes, and it has been a recommendation of the American Academy of Ophthalmology for many years that such treatment is not indicated. Counselling and follow-up of at-risk patients is likely more effective, and far more cost-effective, in preventing loss of vision due to retinal detachment.
SUPPORTING EVIDENCE


5.
HOW THIS LIST WAS MADE

RANZCO has undertaken a multi-stage consultation process to ensure that the entire spectrum of medical eye specialists in Australia and New Zealand can contribute to the process of identifying and refining the top five recommendations. The first stage included a survey of fellows to identify possible recommendations, which were then narrowed down by a dedicated “Choosing Wisely” committee of RANZCO members. A second survey was then sent to all members to provide feedback on the list of five and received a high response rate. Based on the extensive feedback received via the survey, RANZCO’s “Choosing Wisely” committee crafted the final wording of the top five recommendations. Finally, the RANZCO board discussed and approved the recommendations.

Last reviewed: March 2016
Most clinically significant acute ankle injuries can be diagnosed with history, examination, and selective use of plain radiography. Extensive validation studies have shown that the Ottawa Ankle Rules can be safely applied to adult and paediatric populations. Selective use of plain radiography in patients with acute ankle injury is useful in identifying patients who have sustained clinically important fracture, dislocation, and osteochondral injuries. However, acute ligamentous injuries involving the anterior talofibular ligament can be diagnosed clinically and treated symptomatically.

When there are persistent symptoms (such as pain and swelling) after an acute injury, which raise suspicion of either instability or other internal derangement, such as osteochondral injury, MRI can be used if the non-urgent (or delayed or elective or similar) weight-bearing x-rays show no abnormality.

The potential complications of untreated deep venous thrombosis (DVT) include thrombus propagation, pulmonary embolism (PE) and death from PE. A significant but under-appreciated longer-term complication is post-thrombotic syndrome (PTS) and this can occur in up to 40% of patients with proximal DVT, as a result of venous incompetence and hypertension.

Wells et al (2003) showed that ambulatory outpatients with suspected lower limb DVT and a DVT risk assessment score (Wells Score) of less than 2, can have DVT excluded by a negative result on D dimer assay, obviating the need to perform duplex compression ultrasound. The lower limit of the negative predictive value of the combination of a score <2 and negative D dimer was found to be 96.7. The Wells Score has been extensively and externally validated since first publication.
3 Don’t request any diagnostic testing for suspected pulmonary embolism (PE) unless indicated by Wells Score (or Charlotte Rule) followed by PE Rule-out Criteria (in patients not pregnant). Low risk patients in whom diagnostic testing is indicated should have PE excluded by a negative D dimer, not imaging.

Pulmonary embolism (PE) affects 2-3 per 1000 adults per year. It can be fatal if untreated, more often in hospitalised people than outpatients. The symptoms and signs of PE (chest pain, cough, dyspnoea, and tachycardia) are non-specific and so imaging is required to make the diagnosis. PE is diagnosed by direct (CT pulmonary angiogram) or indirect (ventilation/perfusion or “V/Q” lung scanning) demonstration of the emboli within the pulmonary arterial tree. PE can be excluded in low risk patients by a negative result on whole blood D dimer. Some low risk patients (“Pulmonary Embolism Rule-out Criteria [PERC] negative”) are at such low risk they require no diagnostic testing, including D dimer.

Clinical decision rules (CDRs) are more specific than clinical gestalt in determining which patients are unlikely to have PE, and thus can prevent unnecessary imaging in these groups.

Validated risk assessment strategies are not applicable to pregnant women and D dimer is physiologically elevated early in pregnancy. Ventilation perfusion lung scanning is the test of choice in the presence of a normal chest radiograph in a pregnant woman with suspected PE as the radiation dose to the breast is much lower than for CT pulmonary angiography and the fetal dose is very small and comparable for both imaging tests.

4 Don’t perform imaging for patients with non-specific acute low back pain and no indicators of a serious cause for low back pain.

Low back pain (LBP) is extremely common, being the third most common health complaint seen by Australian general practitioners.

A simple classification places patients into one of three categories:

- LBP associated with sciatica or spinal canal stenosis
- Serious spinal pathology (such as cancer, infection, fracture, and cauda equina syndrome) comprises 1% of GP presentations with LBP
- Non-specific low back pain (90% of presentations)

When evaluating patients with acute LBP, one of the key issues to be addressed is whether or not the patient should be investigated using imaging to confirm or refute the presence of an underlying/associated condition that would
change the subsequent medical treatment or investigation of the patient.

Age over 70 years, trauma, corticosteroid therapy, and female gender are risk factors for fracture and previous or current cancer significantly increases the likelihood of cancer related back pain. At least one of fever, systemic symptoms, recent invasive procedure or sepsis, or elevated CRP are seen in most but not all patients with discitis or epidural abscess. New lower limb or bladder motor dysfunction increase the likelihood of cauda equina syndrome in a patient with LBP and are indications for emergency MRI.

Cervical spine imaging of every trauma patient is costly and results in significant radiation exposure to a large number of patients, very few of whom will have a spinal column injury. Clinical decision rules have been developed that identify patients who can be safely managed without imaging. These rules include the Canadian C-Spine Rule or Nexus Low Risk Criteria. The Canadian C-Spine Rule provides higher specificity and lower imaging requirements, and should be used if possible.

*This is a joint recommendation with Australasian College for Emergency Medicine (ACEM)*

Most head injuries presenting to Emergency Departments will be minor and do not require immediate neurosurgical intervention or inpatient care. Mild head injury patients can be risk stratified into ‘low’ or ‘high’ risk groups based on the presence or absence of identified clinical risk factors. Current validated clinical decision rules include the Canadian CT Head Rule (for adults) or the PECARN Tool (for children). These rules can safely identify patients who can be discharged home, without CT scanning.

*This is a joint recommendation with Australasian College for Emergency Medicine (ACEM)*

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5.


Paediatric Specific:

6.


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About The Royal Australian and New Zealand College of Radiologists (RANZCR)
The Royal Australian and New Zealand College of Radiologists (RANZCR) is a not-for-profit association of members who deliver skills, knowledge, insight, time and commitments to promote the science and practice of the medical specialties of clinical radiology (diagnostic and interventional) and radiation oncology in Australia and New Zealand.


Paediatric Specific References

HOW THIS LIST WAS MADE

A team of five Lead Radiologists were nominated to guide RANZCR’s Choosing Wisely contribution. These Lead Radiologists analysed previous work completed by RANZCR, in particular a series of Education Modules for Appropriate Imaging Referrals. These modules had been developed from an extensive evidence base and with multiple stakeholder input. Using the evidence from the Education Modules, the Lead Radiologists developed a draft recommendations list, which was then further developed and endorsed by RANZCR’s Quality and Safety Committee, before being circulated to the RANZCR membership for consultation with a request for alternative recommendations. Member feedback was reviewed by the Lead Radiologists prior to ratification of the final recommendations by the Faculty of Clinical Radiology Council. The final six items selected were those that were felt to meet the goals of Choosing Wisely, i.e. those which are frequently requested or which might expose patients to unnecessary radiation.

Due to the fundamental role of diagnostic imaging in supporting diagnosis across the healthcare system, RANZCR worked closely with other Colleges throughout the project via the Advisory Panel. Following identification of two common recommendations with the Australasian College for Emergency Medicine, it was agreed by both Colleges to present these items jointly.

Updated: March 2017
**5 THINGS CLINICIANS AND CONSUMERS SHOULD QUESTION**

*Developed by the Royal Australian and New Zealand College of Radiologists – Faculty of Radiation Oncology*

1. **Don’t initiate whole-breast radiation therapy as a part of breast conservation therapy in women age ≥50y with early-stage invasive breast cancer without considering shorter treatment schedules**

   Whole-breast radiation therapy decreases local recurrence and improves survival of women with invasive breast cancer treated with breast conservation therapy. Most studies have utilised “conventionally fractionated” schedules that deliver therapy over 5-6 weeks, often followed by 1-2 weeks of boost therapy.

   Recent studies, however, have demonstrated equivalent tumor control and cosmetic outcome in specific patient populations with shorter courses of therapy (~4 weeks). Patients and their physicians should review these options to determine the most appropriate course of therapy.

2. **Don’t initiate management of low risk prostate cancer without discussing active surveillance**

   Patients with prostate cancer have a number of reasonable management options. These include surgery and radiation, as well as conservative monitoring without therapy in appropriate patients.

   Shared decision making between the patient and the physician can lead to better alignment of patient goals with treatment and more efficient care delivery.

   ASTRO has published patient-directed written decision aids concerning prostate cancer and numerous other types of cancer. These types of instruments can give patients confidence about their choices, improving compliance with therapy.

3. **Don’t routinely use extended fractionation schemes (>10 fractions) for palliation of bone metastases**

   Studies suggest equivalent pain relief following 30 Gy in 10 fractions, 20 Gy in 5 fractions, or a single 8 Gy fraction.

   A single treatment is more convenient but may be associated with a slightly higher rate of retreatment to the same site.

   Strong consideration should be given to a single 8 Gy fraction for patients with a limited prognosis or with transportation difficulties.
Don’t routinely add adjuvant whole-brain radiation therapy to stereotactic radiosurgery for limited brain metastases

Randomised studies have demonstrated no overall survival benefit from the addition of adjuvant whole-brain radiation therapy (WBRT) to stereotactic radiosurgery (SRS) in the management of selected patients with good performance status and brain metastases from solid tumors. The addition of WBRT to SRS is associated with diminished cognitive function and worse patient-reported fatigue and quality of life. These results are consistent with the worsened self-reported cognitive function and diminished verbal skills observed in randomised studies of prophylactic cranial irradiation for small cell or non-small cell lung cancer.

Patients treated with radiosurgery for brain metastases are at higher risk of developing metastases elsewhere in the brain. Careful surveillance and the judicious use of salvage therapy at the time of brain relapse allow appropriate patients to enjoy the highest quality of life without a detriment in overall survival. Radiation oncologists should discuss these options with patients, including participation in appropriate clinical trials.

Don’t routinely use extensive locoregional therapy in most cancer situations where there is metastatic disease and minimal symptoms attributable to the primary tumour

In the past, extensive local regional therapies (e.g., surgery) were often provided in patients with metastatic disease, regardless of the symptomatology of the primary tumour. However, recent evidence has suggested that in many cases these therapies do not improve outcome and, at times, delay the more important treatment of metastatic disease (e.g., chemotherapy). In general, patients with metastatic disease from solid organ malignancies and a relatively asymptomatic primary tumour should be considered for systemic therapy as a priority; the delay in systemic therapy and potential additional morbidity arising from extensive locoregional therapies should be avoided in these patients.
SUPPORTING EVIDENCE


5.


HOW THIS LIST WAS MADE

Recommendations relating to radiation oncology from the Choosing Wisely and Choosing Wisely Canada were circulated around the Faculty of Radiation Oncology Council to determine which recommendations were applicable to the Australian and New Zealand context. The selected recommendations were then put to the Quality Improvement Committee and the Economics and Workforce Committee, with each being asked to rank the recommendations.

The five highest ranked recommendations were then put to the radiation oncology membership for consultation prior to being formally approved by the Faculty of Radiation Oncology Council.

Recommendations 1-4 are adapted from the American Society for Radiation Oncology (ASTRO) 2013 and 2014 lists. Recommendation 5 is adapted from Choosing Wisely Canada’s Oncology list. Each organisation was approached for—and subsequently granted—approval to adapt these recommendations as part of the Choosing Wisely Australia campaign.

Current as at: October 2016

About Choosing Wisely Australia
Choosing Wisely Australia® is enabling clinicians, consumers and healthcare stakeholders to start important conversations about tests, treatments and procedures where evidence shows they provide no benefit and in some cases, lead to harm. This initiative is being led by Australia’s medical colleges, societies and associations and is facilitated by NPS MedicineWise.

About the Royal Australian and New Zealand College of Radiologists
The Royal Australian and New Zealand College of Radiologists (RANZCR) is a not-for-profit association of members who deliver skills, knowledge, insight, time and commitments to promote the science and practice of the medical specialties of clinical radiology (diagnostic and interventional) and radiation oncology in Australia and New Zealand.

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PPIs are very effective and widely used medications for treating gastroesophageal reflux disease (GORD) and peptic ulcer disease. However, there is evidence of inappropriate prescribing, with a high proportion of patients kept on maximal doses long term. After initial symptom control, the lowest dose and frequency that provides ongoing symptom control should be reached by ‘stepping down’, and the medication ceased when no longer required. This reduces the risk of possible adverse effects to the individual, and the costs of long term treatment.

Adverse effects of long term use include increased risk of GI infection (incl. clostridium difficile), community acquired pneumonia, osteoporotic fractures, interstitial nephritis, and nutritional deficiencies (B12, Fe, Mg), particularly in the elderly or immunocompromised. Exceptions, for which prolonged treatment may be necessary, include Barrett’s oesophagus, high grade oesophagitis, and GI bleeding.

The cost of anti-acid medication was $450 million in 2013-14, with prescription volume increasing 9% annually.

The benefit gained from treating elevated blood pressure or lipids is proportional to a patient’s baseline risk of a cardiovascular event. Patients with multiple risk factors who are at high risk of an event will gain the most benefit from treatment. Patients with elevated blood pressure or lipids but who are ‘low risk’ (< 10% 5-year risk according to the current National Vascular Disease Prevention Alliance (NVDPA) absolute CVD risk guidelines) do not require medication. The NVDPA guidelines also recommend treatment of blood pressure persistently greater than 160/100 mmHg regardless of baseline risk, and for other patients with conditions considered high risk, or with existing cardiovascular disease (see guidelines).

Ideally, patients should share in the decision to commence medication, with an understanding of the potential benefits and harms. Lipid-modifying drugs cost the PBS $1.1 billion in 2013-14, more than any other class of medication.
3. Don’t advocate routine self-monitoring of blood glucose for people with type 2 diabetes who are on oral medication only

There is no evidence that self-monitoring of blood glucose (SMBG) affects patient satisfaction, general well-being or general health-related quality of life. A 2012 Australian review found SMBG may possibly reduce HbA1c levels by 0.25-0.3%, considered clinically insignificant. SMBG actually increased hypoglycaemia risk, although causation was uncertain.

This recommendation aligns with the 2015 draft NICE guidelines for self-monitoring of blood glucose, the Canadian CADTH recommendations and the Scottish Intercollegiate Guidelines Network.

Therefore, use HbA1c levels to guide therapy, and promote lifestyle interventions regardless of diabetes control. Exceptions (i.e. not ‘routine’) may include: symptomatic hypoglycaemia; heavy machinery operators on a sulfonylurea; elderly people with renal failure; pregnancy; and possibly short-term education about diet influencing blood sugar.

Australian government spending on test strips was $143 million in 2012. Diabetics not on insulin who used SMBG, averaged 300 test strips annually.

4. Don’t screen asymptomatic, low-risk patients (<10% absolute 5-year CV risk) using ECG, stress test, coronary artery calcium score, or carotid artery ultrasound

Major risk factors for vascular disease include older age, male sex, hypertension, smoking, dyslipidaemia and diabetes. Calculators using cardiovascular risk factors are widely available to determine a patient’s individual risk for a vascular event. The additional information obtained by screening asymptomatic adults at low risk for a vascular event, via a resting ECG or stress test, is very unlikely to alter risk stratification or reduce overall events related to coronary artery disease. The potential harms of these tests have been found to equal or exceed the potential benefits in this population.

In the absence of clinical trial data demonstrating an overall benefit, coronary artery calcium score is also not recommended in this population. (NVDPA guidelines)

Similarly, screening with carotid duplex ultrasound in low-risk patients results in many more false-positive than true-positive results. This in turn leads to a significant number of unnecessary angiographies or surgical procedures, with the attendant risks of stroke, myocardial infarction and death.
Avoid prescribing benzodiazepines to patients with a history of substance misuse (including alcohol) or multiple psychoactive drug use

Based on epidemiological data, the prevalence of benzodiazepine (BZD) abuse is generally low in the therapeutic setting. However, the incidence of BZD misuse and abuse is much higher in people who abuse alcohol and other drugs, either currently or in their past history.

When BZDs are combined with other CNS depressants (e.g., alcohol, antidepressants, antipsychotics, opioids), patients are at risk of respiratory depression, heavy sedation, coma and death. Alcohol and BZDs can produce cross-tolerance, and regular use of both can make withdrawal more severe and/or protracted.

Patients who use two or more psychoactive drugs in combination (polydrug use) and those with a history of significant mental illness may be more vulnerable to major harms. When treating polydrug users, avoid initiating BZDs, and for patients already taking them, reduce and cease prescription of BZDs in a supervised manner.
SUPPORTING EVIDENCE

   http://www.nice.org.uk/guidance/cg184/chapter/1-recommendations


CADTH Recommendations on Self-Monitoring of Blood Glucose Using Test Strips, Canada 2009


HOW THIS LIST WAS MADE

All RACGP members were invited, and five GPs selected, to join the Choosing Wisely panel. They raised 28 issues, researched these and voted on a shortlist of 10. The voting for this shortlist was based on the amount of supporting evidence available, the degree of importance for patients, and the frequency of the test or treatment being used by Australian GPs. Opinion from the entire College membership was then sought via online survey, to choose five of the shortlisted 10. Additional free-text comment was encouraged, with good response rates. This national vote determined the final five topics. Following an NPS Representatives meeting, two on that list were found to duplicate other Colleges’ choices, and it was felt the RACGP could endorse these rather than replicate them. Therefore the next two highest voted options were selected instead.

Last printed: April 2015

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About RACGP
The Royal Australian College of General Practitioners (RACGP) is Australia’s largest professional general practice organisation and represents urban and rural general practitioners. We represent more than 29,000 members working in or towards a career in general practice. There are more than 125 million general practice consultations taking place annually in Australia.

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**1. Don’t order colonoscopy as a screening test for bowel cancer in people at average or slightly above average risk. Use faecal occult blood screening instead.**

This recommendation does not apply to people with a bowel symptom such as bleeding. Approximately 98% of Australians are at ‘average’ or ‘slightly above average’ risk (e.g. one relative with bowel cancer diagnosed at ≥ 55yo). RACGP guidelines recommend two-yearly faecal occult blood testing (FOBT) from 50-75 years of age. The best available data to 2011 suggests 13% of this group were instead over-screened using colonoscopy.

National Bowel Cancer Screening Program (NBCSP) data shows that, per 10,000 people in this group followed up for an average 18 months, 6 will die from bowel cancer if unscreened. If screened with colonoscopy, 2.3 will die (1.5 from bowel cancer plus 0.8 from colonoscopy complications), compared to just 1.9 deaths for FOBT. A colonoscopy also risks bowel perforation (7 per 10,000), involves bowel preparation, and costs around $3000. NBCSP monitoring shows that a negative FOBT is 99.9% specific in ruling out bowel cancer.

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**2. Don’t order chest x-rays in patients with uncomplicated acute bronchitis.**

Acute bronchitis is the commonest cause of cough presenting to GPs. It is usually viral (>90%) and self-limiting, and antibiotics should not routinely be used.

Chest x-rays (CXRs) are the imaging tests most frequently ordered by Australian GPs, and the most common indication is acute bronchitis/bronchiolitis (140,000 annually, data combined for both conditions).

‘Uncomplicated’ bronchitis refers to cough and sputum lasting less than three weeks in immunocompetent patients without underlying respiratory disease, and no clinical features suggesting pneumonia (heart rate >100, resp rate >24, temp >38.0C, haemoptysis, signs of consolidation). A Cochrane review found routine CXR did not affect outcomes in adults or children presenting to hospital with acute chest infection. Note that purulent (green) sputum is not predictive of bacterial infection and is not in itself an indication for CXR. CXRs may also lead to false positives, further investigation and unnecessary radiation. The threshold for CXR should be lower in patients over 60.
3. Don’t routinely do a pelvic examination with a Pap smear

During a routine cervical smear for screening (i.e. no symptoms), a bimanual pelvic examination has no proven benefit, as it has not been shown to improve the detection of ovarian cancer or to benefit other outcomes. In a large study of Australian women undergoing routine screening pelvic examination, no ovarian malignancies were found, and the high prevalence of benign abnormalities (bulky/fibroid uterus in 13%, abnormal adnexal findings in 2%) often led to further investigation.

A recent US review concluded that no data supports the effectiveness of speculum or bimanual pelvic examinations in the asymptomatic, average-risk woman. The procedure causes pain, fear, anxiety, and/or embarrassment in a third of women and can lead to unnecessary, invasive, and potentially harmful diagnostic procedures. Pelvic examinations require additional clinician time and, for consultations not otherwise requiring intimate examination, the consideration of a chaperone. Therefore, unnecessary examinations lead to resource and opportunity costs.

4. Don’t treat otitis media with antibiotics, in non-Indigenous children aged 2-12 years, where reassessment is a reasonable option

Avoid the routine use of antibiotics in acute otitis media, except in a child with acute systemic features such as high fever, vomiting or lethargy. Clinical review at 24-48 hours is good practice, if available. Regardless of whether one or both eardrums are red or bulging, antibiotics do not reduce pain at 24 hours, and up to 20 children must be treated to prevent pain in one child at 2 to 7 days. Routine antibiotic use slightly reduces tympanic membrane perforation (NNT = 33) but has no effect on tympanic membrane findings at 3 months, nor on severe complications.

One in 14 children will develop antibiotic side effects, particularly rash, diarrhoea, or vomiting. Antibiotic use promotes bacterial resistance, both in the individual and community. Aboriginal and Torres Strait Islander children are at higher risk of complications and should be treated early. Guidelines vary about the value of antibiotic treatment in children aged 6-23 months, but support antibiotics for infants under 6 months.
This ‘screening’ recommendation does not apply to people with symptoms suggestive of thyroid disease. The prevalence in adults of subclinical hypothyroidism is about 4.3% (0.7% for subclinical hyperthyroidism), and prevalence is higher in older adults and women. About 2-5 percent of people with subclinical hypothyroidism and 1-2 percent with subclinical hyperthyroidism will develop overt thyroid disease per year.

However, many patients with subclinical thyroid dysfunction revert to normal when followed over time. A 2014 systematic review of screening for thyroid dysfunction found that clear evidence on the benefits and harms of screening is unavailable, and recommended against population-based screening. In the absence of evidence that early treatment reduces symptoms, lipid levels, or the risk of cardiovascular disease in patients with mild thyroid dysfunction detected by screening, the RACGP Guidelines for preventive activities in general practice does not recommend screening for thyroid disease in asymptomatic populations.
SUPPORTING EVIDENCE


Ouakrim DA et al. Screening practices of Australian men and women categorized as “at or slightly above average risk” of colorectal cancer. Cancer Causes Control 2012;23:1853–1864. (The 13% figure taken from the latest, unpublished data, received via correspondence from the primary author, Oct 2015).

Emery J. NHMRC Centre for Research Excellence for Optimising Colorectal Cancer Screening at the University of Melbourne. AIHW data, National Bowel Cancer Screening Program.


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HOW THIS LIST WAS MADE

The RACGP Working Group established for Wave 1 of Choosing Wisely identified 32 candidate topics for Wave 2, then shortlisted fifteen, spread across four categories - screening, imaging, pathology and treatment. The shortlisting criteria were: quality of supporting evidence; importance for patients; and number of Australian GPs using the test or treatment.

A dedicated workshop was held at the RACGP Annual Scientific Meeting, ‘GP15’, and the entire RACGP membership was asked to vote for their ‘top five’ via online survey. Additional free-text comment was encouraged, with good response rates. The top five topics from this national vote were written up by the Working Group and reviewed by the RACGP Expert Committee - Quality Care.

Last reviewed: March 2016
5 THINGS
CLINICIANS AND CONSUMERS SHOULD QUESTION

Developed by The Royal College of Pathologists of Australasia

1. Do not perform surveillance urine cultures or treat bacteriuria in elderly patients in the absence of symptoms or signs of infection

Asymptomatic bacteriuria is a common finding in all ages and in association with other comorbidities. Treatment of asymptomatic bacteriuria is recommended in pregnancy but not in other clinical situations. Prophylaxis against development of symptoms prior to simple cystoscopy and prosthetic joint replacement is not recommended. Extensive guidelines from the Infectious Diseases Society of America (IDSA) are available for this condition and asymptomatic bacteriuria in catheterised patients. The use of chemical screening strips in asymptomatic patients may lead to unnecessary urine cultures when positive results are obtained. Increasing antibiotic resistance in urinary pathogens may be a consequence of unnecessary treatment.

2. Do not perform PSA testing for prostate cancer screening in men with no symptoms and whose life expectancy is less than 7 years

Prostate cancer causes significant mortality and morbidity and all patients with concerns about their risks of having the disease and/or their prognosis if diagnosed, including the role of prostate specific antigen (PSA) testing, should discuss these with their doctor.

Since any mortality benefit from early diagnosis of prostate cancer due to PSA testing is not seen within less than 6–7 years from testing, PSA testing is not recommended for men who are unlikely to live another 7 years.

3. Do not perform population based screening for Vitamin D deficiency

The quality of the evidence for the health benefits of an adequate vitamin D status is highly variable. As the main source of vitamin D is UVB sunlight exposure, vitamin D status as assessed by the measurement of 25 hydroxyvitamin D (25OH-D) is correlated with time spent outdoors, exercise and other aspects of a healthy lifestyle including body weight. Vitamin D insufficiency is associated with low levels of exercise, obesity and/or reduced sun light exposure, such as occur more commonly in the elderly, the overweight, the frail and unwell or institutionalised and where there are occupational, racial or cultural reasons.

In individuals at risk of vitamin D deficiency, measurement of 25OH-D is an appropriate, case-finding strategy. Routine screening of healthy infants, children and adults (including pregnant women) for vitamin D deficiency is currently not recommended.

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4. Restrict the use of serum tumour marker tests to the monitoring of a cancer known to produce these markers or where there is a strong known underlying predisposition or suspicion.

The measurement of levels of certain tumour biomarkers is known to be helpful in monitoring the progress of specific cancers in response to treatment or in detecting changes in cancer activity or secondary or recurring cancer. In some circumstances they are helpful adjuncts in detecting specific cancers, where there is a strong known underlying predisposition or suspicion, such as in detecting liver cancer in patients with chronic hepatitis C and cirrhosis. However, the testing for a broad range of biomarkers in patients with non-specific symptoms in the hope of finding an undetected cancer is not supported by the evidence from numerous systematic reviews. Tumour markers generally should not be used in the initial diagnostic pathway and are rarely diagnostic due to low sensitivity and specificity.

5. Do not routinely test and treat hyperlipidaemia in those with a limited life expectancy.

Measurement of lipid levels is part of absolute risk assessment for the prevention of cardiovascular disease. Age is a predominant risk factor in the elderly, so absolute risk calculators accommodate this by fixing 75 years as the maximum age that can be included in the calculation. Clinicians need to consider whether or not the assessment and treatment of risk factors beyond this age in the very elderly is likely to yield clinical benefit within the patient’s remaining life expectancy. On rare occasions lipid testing may provide relevant information in other life threatening diseases, such as pancreatitis, but in most critical illnesses lipid measurement for prevention of chronic disease will no longer be a priority.
SUPPORTING EVIDENCE


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HOW THIS LIST WAS MADE

A list of ten items was compiled after reviewing international literature associated with the Choosing Wisely campaign in Northern America. The College’s advisory committees were canvassed for further relevant evidence based literature and their expert opinions were sought. The ten items were then adopted as a College Position Statement titled ‘Inappropriate Pathology Requesting’. This list was then sent to RCPA Fellows and Trainees based in Australia to rank the top five tests to include in the Australian Choosing Wisely initiative. The five items selected were approved by both the RCPA’s Board of Professional Practice and Quality and the RCPA Board of Directors.

Updated: February 2017
Frail, elderly patients are more susceptible to the adverse effects of medicines. There is limited evidence to support the use of many medicines in elderly patients as they are typically excluded from clinical trials. One study has estimated cost to the PBS of potentially inappropriate medication in older patients is between $240 and $450 million each year. The use of medicines used to prevent a condition, or disease, or those with a long ‘time to benefit’ profile may not be consistent with the life expectancy of the patient and their goals of care. The proactive de-prescribing of medicines that no longer provide a benefit to the patient is integral to end-of-life care and advance care planning. Patients or their carer, or designated guardian, should be involved in the decision to review treatment and the ongoing need for each medicine.

Antibiotics may be prophylactic, empirical or targeted against a known organism. Prolonged duration of antibiotics is associated with: an increased risk of adverse reactions, Clostridium difficile infection, candidiasis, selection of antibiotic resistant organisms as well as unnecessary cost. Therefore the shortest possible duration of therapy should be used. For the majority of infections treatment should not exceed 7 days. The most appropriate duration of therapy may be difficult to identify in some circumstances. In these instances treatment duration must be individualised for the patient on the basis of clinical, microbiological or radiological parameters. If ongoing treatment is required a date for review should be identified. Patients should be advised that using antibiotics when they don’t need them can contribute to the problem of antibiotic resistance. They should be advised, when the antibiotic is prescribed and dispensed, when the antibiotic is to finish, or the date to be reviewed.
Don’t initiate and continue antipsychotic medicines for behavioural and psychological symptoms of dementia for more than 3 months

Behavioural and psychological symptoms of dementia (BPSD) are often temporary. The mainstay treatment of BPSD is non-pharmacological. Antipsychotic medicines should only be considered when non-pharmacological interventions have failed and the patient has symptoms that are distressing for them, their family or co-residents.

Patients or their carer, or designated guardian, should be involved in the decision to begin treatment with an antipsychotic medicine. Consideration needs to be given to the patient’s ability to appreciate the consequences of refusing or agreeing to treatment.

If used, the dose of the antipsychotic medicine should be increased as slowly as necessary with the goal of using the lowest effective dose for the shortest possible time. The effectiveness of the medicine and the occurrence of delirium, sedation, or anti-cholinergic side effects should be assessed at least weekly.

Treatment should be reviewed after no more than 3 months and the dose should be reduced and then stopped wherever possible.

Don’t recommend the regular use of oral non-steroidal anti-inflammatory medicines (NSAIDs) in older people

Non-steroidal anti-inflammatory medicines (NSAIDs) are frequently used in the short term to treat moderate acute pain. They are not usually required after the cause of the acute pain has been addressed. Treatment should be re-assessed if the acute pain is ongoing and not resolved within 2 weeks.

Oral NSAIDs have considerable cardiovascular, gastrointestinal and kidney function risks. They should not be recommended without consideration of the patient’s additional diseases or conditions; in particular older people, people with kidney disease, a history of peptic ulcer disease, hypertension or heart failure.

Older people should use the lowest possible dose of an oral NSAID, for the shortest duration possible and multiple NSAIDs should not be taken at the same time.

The effectiveness of long-term oral NSAID treatment should be routinely assessed against the individual patient’s management plan. If possible the total dose should be reduced or ceased.
Don’t recommend the use of medicines with sub-therapeutic doses of codeine (<30mg for adults) for mild to moderate pain

Products containing low dose (<12mg) codeine per tablet combined with another analgesic medicine are available without a prescription and are commonly recommended for the treatment of mild to moderate pain. Codeine is converted to morphine in the body to work. The extent of this metabolism depends on each individual’s pharmacogenetics, which are not readily known and this is highly variable between individuals.

There is evidence that doses of codeine less than 30 mg every 6 hours, are no more effective than paracetamol or an NSAID alone. Therefore, combination products that contain low dose codeine should not be recommended for mild to moderate pain. If used, their effectiveness should be assessed within 48 hours. If symptoms persist the product should be ceased and the patient referred for further assessment.

Codeine can lead to constipation, nausea, vomiting, bloating and abdominal pain, any of these symptoms can impact on quality of life.


   Snowdon J, Galanos D, Vaswani D. Patterns of psychotropic medication use in nursing homes: surveys in Sydney, allowing comparisons over time and between countries. International Psychogeriatrics 2011;23(9):520-1525.

   Barkin RL, Beckerman M, Blum SL, Clark FM, Koh E, DS Wu. Should Nonsteroidal Anti-Inflammatory Drugs (NSAIDs) be Prescribed to the Older Adult? Drugs Aging 2010;27(10):775-789.

HOW THIS LIST WAS MADE

A working party was formed and they sought suggestions from SHPA’s Committees of Specialty Practice, Reference Groups, State and Territory branches and Federal Council.
More than 40 proposed statements were considered by the working party. A shortlist of 10 statements was identified for consideration by the SHPA’s membership through an online survey. All members were invited to comment on each proposed statement, specifically: whether it related to the practice of pharmacy, related to medicines that are frequently used, and if a significant cost. Members were also invited to rate the statements in order of preference.
The survey results were used by the working party to identify the final six statements which were presented to SHPA’s Federal Council who ratified the choice of the five final statements.

Last reviewed: March 2016

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The Society of Hospital Pharmacists of Australia (SHPA) is the national professional organisation for more than 3,000 pharmacists, pharmacists in training, pharmacy technicians and associates working across Australia’s health system.

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