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Internal Medicine Society of Australia & New Zealand

IMSANZ top-five recommendations on low value practices

A panel of IMSANZ members produced an initial list of 32 low value tests, treatments and management decisions frequently encountered in general medicine services. 350 members of a working group comprising approximately 50 general physicians as well as nurses and allied health professionals were asked to rank the items in terms of priority and nominate additional items. Based on their responses, the list was condensed to 15 items including three which were not previously listed. Following further discussion, this was reduced to a 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 was sent to all IMSANZ members asking respondents to assign a score from one to five for each recommendation on three criteria (evidence, frequency, and patient harm and cost). The survey attracted 182 respondents from all across Australia and New Zealand, which was a response rate of 26 per cent. The five with the highest average total scores were confirmed as the final list.

1. **Avoid medication-related harm in older patients (>65 years) receiving five or more regularly used medicines by performing a complete medication review and deprescribing whenever appropriate**

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**

3. **Once patients have become afebrile (non-feverish) and are clinically improving, don't continue prescribing intravenous antibiotics to those with uncomplicated infections and no high-risk features if they are tolerant of oral antibiotics**

4. **Don't request Holter monitoring, carotid duplex scans, echocardiography, electroencephalograms (EEGs) or telemetry in patients with first presentation of uncomplicated syncope and no high risk features**

5. **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**

ABOUT EVOLVE

EVOLVE is a physician-led initiative to ensure the highest quality patient care through the identification and reduction of low-value practices and interventions.

EVOLVE is patient-centred and evidence-based, with rigorous and transparent processes. Its focus is to stimulate clinical conversations – between colleagues, across specialties, and with patients – to ensure the care that's delivered is the best for each patient.

EVOLVE is part of a worldwide movement to analyse medical practices and reduce unnecessary interventions. It is an initiative in partnership between the RACP and the Specialty Societies, Divisions, Faculties and Chapters.

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1 Avoid medication-related harm in older patients (>65 years) receiving five 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. immunosuppressed 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.

3 Once patients have become afebrile (non-feverish) and are clinically improving, don't continue prescribing intravenous antibiotics to those with uncomplicated infections and no high-risk features if they are tolerant of oral antibiotics

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 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.

4 Don't request Holter monitoring, carotid duplex scans, echocardiography, electroencephalograms (EEGs) or telemetry in patients with first presentation of uncomplicated syncope and no high risk features

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 eg. 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.

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5 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

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 Well's score (equal to or less than four).

These considerations are heightened by the risks associated with CTPA testing such as radiation exposure and incidental imaging findings. There is however a one–three per cent failure rate with a low risk Well's score and negative D-dimer prediction method, so close follow-up is indicated in all patients in whom a D-dimer has been requested.

This is a shorter version of the IMSANZ list. For a longer version with expanded text and all references see
evolve.edu.au/published-lists/internal-medicine-society-of-australia-and-new-zealand

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