

AUSTRALASIAN FACULTY OF REHABILITATION MEDICINE: TOP 5 LOW-VALUE PRACTICES AND INTERVENTIONS

The Australasian Faculty of Rehabilitation Medicine (AFRM) is a Faculty of the Royal Australasian College of Physicians (RACP). AFRM provides training and continuing education for Rehabilitation Medicine Fellows and trainees throughout all stages of their career. AFRM trainees and Fellows are committed to providing high quality rehabilitation care to individuals and communities in Australia and New Zealand.

1. Do not discharge patients with osteoporotic fractures without an assessment and/or treatment for osteoporosis

Studies of patients with osteoporotic fractures have found that they are at significantly greater risk of suffering a new fracture compared to the general population. This risk is particularly marked in but not restricted to elderly patients, particularly given that recent clinical guidelines recommend that all individuals over the age of 50 who sustain a fracture following minimal trauma (such as a fall from standing height or less) should be considered to have a presumptive diagnosis of osteoporosis. Despite this, there have been reports of insufficient provision for the management of these patients before discharge.

Osteoporosis assessments and/or treatments before discharge are clinically very important and moreover may be highly cost effective even after taking account of the additional resources associated with providing these services.

Supporting Evidence

- Johansson H, Siggeirsdóttir K, Harvey N. et al. Imminent Risk of Fracture After Fracture. *Osteoporos Int.* 2016; 28 (3): 775-780.
- Johnell O, Kanis JA, Odén A, et al. Fracture risk following an osteoporotic fracture. *Osteoporosis Int.* 2004; 15:175-9.
- Lih A, Nandapalan H, Kim M, et al. Targeted intervention reduces refracture rates in patients with incident non-vertebral osteoporotic fractures: a 4-year prospective controlled study. *Osteoporos Int.* 2011; 22(3):849-58.
- McLellan AR, Wolowacz SE, Zimovetz EA. Fracture liaison services for the evaluation and management of patients with osteoporotic fracture: a cost-effectiveness evaluation based on data collected over 8 years of service provision. *Osteoporos Int.* 2011;22(7):2083-98.
- Otmar R, Henry MJ, Kotowicz MA, et al. Patterns of treatment in Australian men following fracture. *Osteoporos Int.* 2012; 22(1):249-54.
- The Royal Australian College of General Practitioners and Osteoporosis Australia. *Osteoporosis prevention, diagnosis and management in postmenopausal women and men over 50 years of age.* 2nd edn.
- Teede HJ, Jayasuriya IA, Gilfillan CP. Fracture prevention strategies in patients presenting to Australian hospitals with minimal-trauma fractures: a major treatment gap. *Intern Med J.* 2007; 37(10):674-9.

2. Do not prescribe spinal orthotics or bed rest for patients with non-specific low back pain

There is insufficient and conflicting evidence on the effectiveness of spinal orthotics and other forms of lumbar support for treating or preventing low back pain, either as an intervention in its own right or as a supplement to other interventions.



While there is no evidence that short term bed rest is harmful, long periods of bed rest can lead to complications such as muscular atrophy. The only randomised control trial to assess optimal periods of bed rest suggests two days is as effective as any longer period but the evidence is of low quality. There is evidence to support other approaches, such as advice to stay active and exercise which help with pain relief and improved function.

Supporting Evidence

- Belavy DL, Ambrecht G, Richardson CA, et al. Muscle atrophy and changes in spinal morphology: is the lumbar spine vulnerable after prolonged bed-rest? *Spine*. 2011; 36(2):137-45.
- Dahm KT, Brurberg KG, Jamtvedt G, et al. Advice to rest in bed versus advice to stay active for acute low-back pain and sciatica. *Cochrane Database Syst Rev*. 2010; (6):CD007612.
- Deyo RA, Diehl AK, Rosenthal M. How many days of bed rest for acute low back pain? A randomized clinical trial. *N Engl J Med*. 1986 23;315(17):1064-70.
- NICE Low Back Pain and Sciatica in Over 16s: Assessment and Management. NICE Guideline, No. 59 2016.
- Oleske DM, Lavender SA, Andersson GB, et al. Are back supports plus education more effective than education alone in promoting recovery from low back pain? Results from a randomized clinical trial. *Spine*. 2007; 32(19):2050-7.
- van Duijvenbode IC, Jellema P, van Poppel MN, et al. Lumbar supports for prevention and treatment of low back pain. *Cochrane Database Syst Rev*. 2008;(2):CD001823.

3. Do not use Mini Mental State Examination as the only tool to assess cognitive deficit in acquired brain injury

Numerous studies suggest that the Montreal Cognitive Assessment (MoCA) is one of the most effective means of assessing cognitive deficits in acquired brain injury (for instance after transient ischemic attack and stroke) and is to be preferred to the Mini Mental State Evaluation (MMSE). MMSE may under-detect cognitive impairment in acquired brain injury; it is more appropriate for assessing dementia.

Supporting Evidence

- Burton L, Tyson SF. Screening for cognitive impairment after stroke: A systematic review of psychometric properties and clinical utility. *J Rehabil Med*. 2015;47(3):193-203.
- Pendlebury ST, Cuthbertson FC, Welch SJ, et al. Underestimation of cognitive impairment by Mini-Mental State Examination versus the Montreal Cognitive Assessment in patients with transient ischemic attack and stroke: a population-based study. *Stroke*. 2010; 41(6):1290-3.
- Pendlebury ST, Mariz J, Bull L, Mehta Z, et al. MoCA, ACE-R, and MMSE versus the National Institute of Neurological Disorders and Stroke-Canadian Stroke Network Vascular Cognitive Impairment Harmonization Standards Neuropsychological Battery after TIA and stroke. *Stroke*. 2012;43(2):464-9.
- Srivastava A, Rapoport MJ, Leach L, et al. The utility of the mini-mental status exam in older adults with traumatic brain injury. *Brain Inj*. 2006;20(13-14):1377-82.

4. Do not routinely use splinting for prevention and/or management of contractures after stroke

Reviews of the evidence and individual case studies on the use of hand splinting for stroke patients have been unable to find conclusive evidence that it leads to improvements in managing spasticity and preventing contractures or more generally improving upper limb function. Moreover, there is high quality evidence that stretch, whether administered from splints or other means, does not have clinically important effects on joint mobility in people with or without neurological conditions, at least for the periods it is typically prescribed of less than seven months.

Supporting evidence

- Basaran A, Emre U, Karadavut K, et al. Hand splinting for poststroke spasticity: a randomized controlled trial. *Top Stroke Rehabil.* 2012;19(4):329-37.
- Harvey LA, Katalinic OM, Herbert RD, et al. Stretch for the treatment and prevention of contractures. *Cochrane Database Syst Rev.* 2017 Jan 9;1:CD007455.
- Lannin NA, Herbert RD. Is hand splinting effective for adults following stroke? A systematic review and methodologic critique of published research. *Clin Rehabil.* 2003;17(8):807-16.
- Lannin NA, Cusick A, McCluskey A, et al. Effects of splinting on wrist contracture after stroke: a randomized controlled trial. *Stroke.* 2007;38(1):111-6.

5. Do not use imaging for diagnosing non-specific acute low back pain in the absence of red flags

The majority of acute low back pain episodes are benign, self-limited cases that do not warrant the use of imaging (e.g. X-rays, CTI or MRI). There is evidence that early imaging for low back pain in the absence of red flags does not facilitate improvements in primary outcomes such as pain and function, even for older patients. If anything such imaging may be harmful insofar as it may reveal incidental findings that divert attention and increase the risk of having unnecessary interventions and invasive treatments including unnecessary surgery.

Supporting evidence

- Chou R, Fu R, Carrino JA, Deyo RA. Imaging strategies for low-back pain: systematic review and meta-analysis. *Lancet* 2009, 373(9662):463-472.
- Graves JM, Fulton-Kehoe D, Martin DP, et al. Factors associated with early magnetic resonance imaging utilization for acute occupational low back pain: a population-based study from Washington State workers' compensation. *Spine* 2012, 37(19):1708-1718.
- Jarvik JG, Gold LS, Comstock BA, et al. Association of early imaging for back pain with clinical outcomes in older adults. *Jama* 2015, 313(11):1143-1153.
- Webster BS, Bauer AZ, Choi Y, et al. Iatrogenic consequences of early magnetic resonance imaging in acute, work-related, disabling low back pain. *Spine* 2013, 38(22):1939-1946.

How was this list created?

A working group within AFRM initially identified 10 recommendations on low value practices in the field of rehabilitation medicine that may be widespread in Australia and New Zealand. Following a review of the evidence these were reduced to seven. An online survey based on these seven recommendations was distributed to all AFRM members asking them to rate these recommendations based on whether they thought they were evidence based, whether the low-value practices targeted were still being undertaken in significant numbers, and whether the recommendation was important in terms of reducing harm and unnecessary costs to patients. The working group reviewed the feedback and finalised the 'top 5' recommendations which were approved by AFRM Executive in mid-2017.