Acute and long-term medical management of osteoporotic hip fractures

Cassim et al are to be commended on their detailed and clear recommendations for the acute and long-term medical management of osteoporotic hip fractures, published in a recent issue of JEMDSA.1 This publication, a position paper of the National Osteoporosis Foundation of South Africa (NOFSA) and the South African Geriatrics Society, comes at a most opportune time, as it coincides with the launch of the Capture the Fracture campaign of the International Osteoporosis Foundation (IOF) and the 2 Million 2 Many initiative of the American Society for Bone and Mineral Research (ASBMR). Both of these programmes aim to emphasise the fact that a mere one in every 10 patients with hip fractures is afforded proper prophylactic therapy to prevent subsequent fractures.2 This is particularly unfortunate, given the fact that hip fractures carry high mortality (20-36%) and morbidity (less than 50% of patients with hip fractures are capable of leading an independent existence following a hip fracture), yet are very amenable to preventive therapy (a 30-50% reduction in fracture risk).3

The success of protocol-driven care programmes performed by multidisciplinary geronto-orthopaedic units to dramatically reduce the in-hospital mortality (up to threefold) and morbidity of hip fractures is well established.4 Moreover, the window of opportunity to assess and initiate definitive long-term osteoporosis therapy immediately following a fracture, is invaluable. The influence of osteoporosis medication on fracture healing is also of major current interest, and is under close investigation by an IOF fracture working group. At this stage, no evidence exists to suggest harm or a negative influence of any such medication on fracture healing. In fact, mounting evidence would suggest that drugs with an anabolic action, like strontium ranelate, and in particular, teriparatide, may facilitate fracture healing. In this country, the implementation of such coordinator-based, multidisciplinary models of care for secondary fracture prevention, known as fracture liaison services (FLS) in Europe and Australia, or osteoporosis coordinator or care manager programmes in the USA and Canada, is only in its infancy. However, it is clearly a top priority for everyone taking care of patients with fractures; hence the importance of the paper by Cassim et al in providing a clear guideline when setting a best practice framework.

To formalise the identification of fracture subjects and to evaluate and optimise the acute care of patients with fractures, the IOF launched a global Capture the Fracture campaign during its recent congress with the European Society for Clinical and Economic Aspects of Osteoporosis and Osteoarthritis (ESCEO 13-IOF), in Rome in April. This programme aims to improve the acute care of fractures, and to prevent secondary fractures through the implementation of FLS across the world. To quote John Kanis, president of the IOF: “Worldwide, there is a large care gap that is leaving millions of patients with fractures at serious risk of experiencing them again in the future. Capture the Fracture hopes to close this gap and make secondary fracture prevention a reality”.

This massive initiative aims to raise awareness internationally, and also to implement guidelines, best practice frameworks, toolkits, grants and assessment programmes, as well as a scoring system to evaluate general fracture care in a given region and country. At the same Rome meeting, Prof Kanis launched a preliminary Scorecard for Osteoporosis in Europe called SCOPE.

In his evaluation of fracture care in 27 European countries, he assessed a large number of parameters, including:

- **Burden of disease:** Burden of disease extends to the age-standardised incidence of hip fractures
in women, the risk (including the lifetime risk) of osteoporotic fractures in men and women, the World Health Organization Fracture Risk Assessment Tool, and fracture projections over the next 15 years (2010-2025). The crucial importance of robust local epidemiological data on fracture incidence and mortality speaks for itself.

- **Policy framework:** The policy framework includes the quality of fracture data, management at primary care level, whether or not osteoporosis is a recognised specialty, and the presence and quality of patient support societies, like NOFSA.

- **Service provision:** Service provision is a vast topic and refers to the availability and reimbursement of osteoporosis treatment, availability and access to dual-energy X-ray absorptiometry (DXA), the availability of country-specific fracture risk models, the quality and scope of national guidelines for assessment, and the treatment and provision of fracture liaison services.

- **Service uptake:** Assessed parameters pertaining to service uptake include the proportion of high-risk individuals with fractures who are untreated, and average waiting time to hip surgery.

The IOF now plans to extend this initiative, and to assess, score and map fracture care facilities across the globe. The implementation of new, and the assessment of established FLS in particular, are encouraged. In this regard, best practice framework guidelines are available, and a questionnaire to assess the standard and quality of established FLS has been compiled by an IOF fracture working group, chaired by Prof Kristina Åkesson, which can be downloaded from a dedicated website.\(^7\)

Particular attention has been paid to the following standards, which are categorised as poor (level 1), average (level 2) or excellent (level 3):

- **Patient identification:** Level 1 comprises a system in which patients with clinical fractures are identified, but no tracking system exists to identify fracture patients. A facility with a tracking system to evaluate the percentage of patients who are identified versus those that are not, is categorised as level 2, whereas level 3 systems have a tracking system in place whereby the quality of the data capture is subjected to an independent review.

- **Patient evaluation:** This standard aims to ascertain what proportion of patients presenting at the institution with a fracture are evaluated for future fracture risk. Approximately 50% would be assessed for subsequent fracture risk at level 1, 70% at level 2, and ≥ 90% at level 3.

- **Post-fracture assessment timing:** This standard evaluates whether or not secondary fracture prevention is conducted in a timely fashion following the fracture presentation, e.g. within 12-16 weeks (level 1), within 8-12 weeks (level 2), or within eight weeks (level 1).

- **Assessment guidelines:** The intention of this standard is to determine whether or not the institution’s secondary prevention assessment is consistent with local (level 1), regional (level 2), or national guidelines (level 3).

- **Vertebral fracture:** The majority of vertebral fractures are asymptomatic and remain unrecognised. The intention of this standard is to establish what system the institution has established to identify vertebral fractures in patients presenting with, and/or being admitted for, any condition. If only those presenting with a clinical vertebral fracture are identified, a level 1 category is assigned. When patients presenting with nonvertebral fractures are assessed with plain X-rays or DXA-based vertebral morphometry for silent vertebral fractures, a level 2 category is assigned. If patients reported by the institution’s radiologists to have vertebral fractures in plain X-rays, magnetic resonance imaging or computed tomography scans are identified by the FLS as requiring assessment for secondary fracture management, a Level 3 category is assigned.

- **Secondary causes of osteoporosis:** If 50% of patients identified as requiring treatment for osteoporosis are routinely screened for secondary causes of osteoporosis, a level 1 category is assigned. If 70% are screened, a level 2 category is assigned, and if 90% are screened, a level 3 category.

- **Fall prevention services:** Patients presenting with a fragility fracture who are perceived to be at risk of a further fall are evaluated to determine whether or not fall prevention intervention services are needed in 50% (level 1), 70% (level 2), and 90% (level 3) of cases.

- **Multifaceted lifestyle risk-factor assessment:** Detailed clinical lifestyle risk factor assessment for the development of osteoporosis, e.g. exercise, nutrition, smoking and alcohol, is performed in 50% (level 1), 70% (level 2) or 90% (level 3) of all inpatients.

- **Initiation of medication:** Fifty per cent (level 1), 70% (level 2) or 90% (level 3) of patients over 50 years of age presenting with a fracture who are eligible for osteoporosis treatment will receive the said treatment according to evidence-based local, regional and national guidelines.

- **Medication review:** A review of treatment, assessment of compliance and consideration given
to alternative therapy is necessary in patients known to have osteoporosis who present with a fracture, and may occur in 50% (level 1), 70% (level 2) or 90% (level 3) of cases.

- **Communication:** The intention of this standard is to assess to what extent, and to whom, the FLS management plan has been communicated.

- **Long-term management:** This standard aims to ascertain short- (within 12 months) and long-term (> 12 months) plans to ensure optimisation of pharmacotherapy and lifestyle measures, and that assessment of compliance and monitoring are in place.

- **Database:** The intention of this standard is to highlight the importance of having an effective database to underpin the service. If fragility fracture records are only stored in a local database, a level 1 category is assigned. If the site demonstrates that data are recorded regionally, level 2, and when a national database is employed, level 3.

NOFSA is aware of isolated FLS, but is largely ignorant as to the total number and quality of FLS that currently exist in our country. We would like to invite everyone who has already embarked on such an undertaking to share his or her views and experience with us, and to consider becoming involved in the global IOF initiative. I accept that this is a daunting undertaking for the many who have not yet started. Where to start? Clearly, by scrutinising the Cassim paper once more. Attempting to evaluate the quality of care of different fracture types at multiple levels (outpatients and inpatients) would be even more intimidating. It will probably be more practical to limit initial activities to inpatients, and to assess hip fractures only. Vertebral fractures (which are often asymptomatic) and outpatient assessments could follow later.

I look forward to hearing your views on this important subject.

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Chair: NOFSA

**References**


