The Royal College of Chiropractors

Chiropractic Quality Standard

Osteoporosis

RCC Osteoporosis Quality Standard Development Team

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About the Royal College of Chiropractors' Quality Standards

This quality standard covers the chiropractic assessment and management of patients with osteoporosis and those at risk of osteoporotic fracture. Quality Standards are tools designed to help deliver the best possible outcomes for patients. They are a series of specific, concise quality statements with associated measures that provide aspirational, but achievable, markers of high-quality patient care covering the treatment of different conditions. They also form an important part in addressing the increasing priority being placed on improving quality and patient outcomes.

The primary purpose of The Royal College of Chiropractors' quality standards is to make it clear what quality care is by providing patients, the public, healthcare professionals, commissioners and chiropractors with definitions of high-quality chiropractic care.

By providing a clear description of what a high-quality service looks like, clinics can improve quality and achieve excellence. The quality standards should encompass statutory requirements, best practice and existing clinical guidelines, but they are not a new set of targets or mandatory indicators for performance management. They are, however, a useful source to form the basis of clinical audit and to identify priorities for future improvement.

Chiropractors are encouraged to adopt the Royal College of Chiropractors' quality standards as practice policy. They can be used in a wide range of circumstances, such as a source of identifying CPD, or clinic promotion, perhaps when tendering for NHS contracts, or even at a national level. They enable healthcare professionals to understand the standard of service chiropractors provide, and allow commissioners to be confident that the services they are purchasing are of high quality. Importantly, they also help patients to understand what service they should expect.

Chiropractic Quality Standard

Osteoporosis

Contents

Quality Statements

1. **Consideration:** On initial presentation, all patients over the age of 40 should be assessed for major risk factors of osteoporosis, and considered for the possibility of being at risk of low bone density or osteoporotic fracture, despite these being more commonly seen in postmenopausal women and those over the age of 50.
2. **Assessment:** Patients should be assessed for osteoporosis and the risk of osteoporotic fracture by means of a full clinical history, including consideration of the numerous risk factors of osteoporosis, and appropriate use of validated risk assessment tools *(see Assessment and Management Flowchart).*
3. **Identification:** Patients are considered as being at risk of having osteoporosis or an osteoporotic fracture depending on their individual circumstances but informed by the number and weight of positive risk factors, as well as the results of a risk assessment tool predicting 10-year fracture probability *(see Assessment and Management Flowchart).*
4. **Patient-Centred Care:** Patients identified as being at risk of having osteoporosis or an osteoporotic fracture are given an explanation of the findings and the opportunity to discuss their health beliefs, concerns and preferences; patients are actively involved in shared decision-making and are supported to make fully informed choices about investigations, treatment and care.
5. **Referral:** Patients identified as being at significant risk of osteoporotic fracture are referred to their GP for further investigations (for example DXA scanning) and the consideration of prescribed medications *(see Assessment and Management Flowchart).*
6. **Plan of Care:** Patients identified as having low bone density, or as being at risk of osteoporotic fracture, are active participants in the development of individualised care plans that not only relate to their presenting complaint, but also address bone health and aim to reduce the risk of fracture.
7. **Supportive Self-Management:** Patients with low bone density, or identified as being at risk of osteoporotic fracture, are provided with education and advice relating to bone health (in addition to any management of their presenting complaint) to support them to engage in self-management strategies relating to lifestyle, including smoking and alcohol consumption, diet and specific exercises. *(see Conservative Management Guide).*
8. **Falls Prevention:** Patients with low bone density, or identified as being at risk of osteoporotic fracture, are assessed for the risk of falling and given support and advice to manage and reduce this risk, including being directed to falls management services or occupational therapy, where appropriate *(see Conservative Management Guide).*
9. **Management of Fractures:** Patients with new vertebral osteoporotic fractures are referred to their GP, or local fracture liaison service, as well as offered advice, pain co-management strategies and other forms of conservative symptomatic relief.
10. **Multidisciplinary Care:** When managing patients with low bone density, or those identified as being at risk of osteoporotic fracture, chiropractors are mindful of the role of other healthcare professionals (and the management options available to them), write detailed reports to patients' GPs, and make referrals for appropriate assessment and management.
11. **Monitoring and Reassessment:** The needs of patients with osteoporosis and those identified as being at risk of osteoporotic fracture are continually kept under review by regular formal reassessments and their care plans amended as necessary.

Scope and Context of Quality Standard

This quality standard covers the chiropractic assessment and management of patients with osteoporosis and those at risk of osteoporotic fracture.

Osteoporosis is described by the World Health Organisation (WHO) as a progressive systemic skeletal disease characterised by low bone mass and microarchitectural deterioration of bone tissue, with a consequent increase in bone fragility and susceptibility to fracture[1].

It is estimated that every year in the UK more than 500,000 broken bones are caused by osteoporosis[2]. The most common locations for osteoporotic fragility fracture are the spine, hip and wrist. Fractures can cause substantial pain and severe disability, often leading to a reduced quality of life, and hip and vertebral fractures are associated with decreased life expectancy[3]. More than 1 in 3 women, and 1 in 5 men, will sustain one or more osteoporotic-related fractures in their lifetime[2]. Early detection and management to preserve bone quality is, therefore, an important clinical strategy for patients of all ages.

Patients present to chiropractors with a wide range of different complaints and (whether or not related to their presenting condition) the presence of osteoporosis, an osteoporotic fracture or major risk factors of osteoporosis should be a consideration. Chiropractors have the skills and competencies to identify those patients with significant risk factors prior to the potential deterioration in bone density and to provide early preventative support and advice. Fractures due to osteoporosis are a significant and growing public health concern and chiropractors are also well-placed to identify those at risk and support them to make the necessary lifestyle and practical changes to help limit that risk, as well as making appropriate referrals for further investigations and management. This embraces best practice in relation to the public health responsibilities of primary healthcare practitioners.

This quality standard is specific to the environment in which chiropractic care is provided, a setting that is less constrained by time and resource limitations than many other healthcare professionals, and where the physical nature of some therapeutic interventions means that understanding a patient's bone health is of particular importance. It may therefore differ in emphasis and presentation from guidelines produced for other healthcare settings.

Vertebral fractures are the most common osteoporotic fracture, although up to 70% do not come to medical attention and thus remain undiagnosed[4]. Patients with these fractures often present to chiropractors with an increased kyphosis, loss of height and back pain. Given that vertebral fractures are a powerful predictor of further fracture[5], chiropractors have an important role to play in identifying and managing these patients, including making appropriate referrals, in an attempt to reduce the risk of further fractures.

Due to the prevalence of osteoporosis, increasing numbers of patients that present to chiropractors have already been diagnosed and are taking medications for the condition. Depending on the circumstances, chiropractors may have a multi-disciplinary role to play in co-managing these patients by providing conservative, non-pharmacological care, as well as communicating with the patient's GP or other healthcare professionals.

Many different patient presentations are associated with osteoporosis, ranging from those who simply have a number of positive risk factors to the patient in severe pain having suffered a recent fracture, and the exact management will be different in each case. Therefore, the quality statements that make up this quality standard are general but, nevertheless, provide aspirational but achievable markers of high-quality, cost-effective patient care.

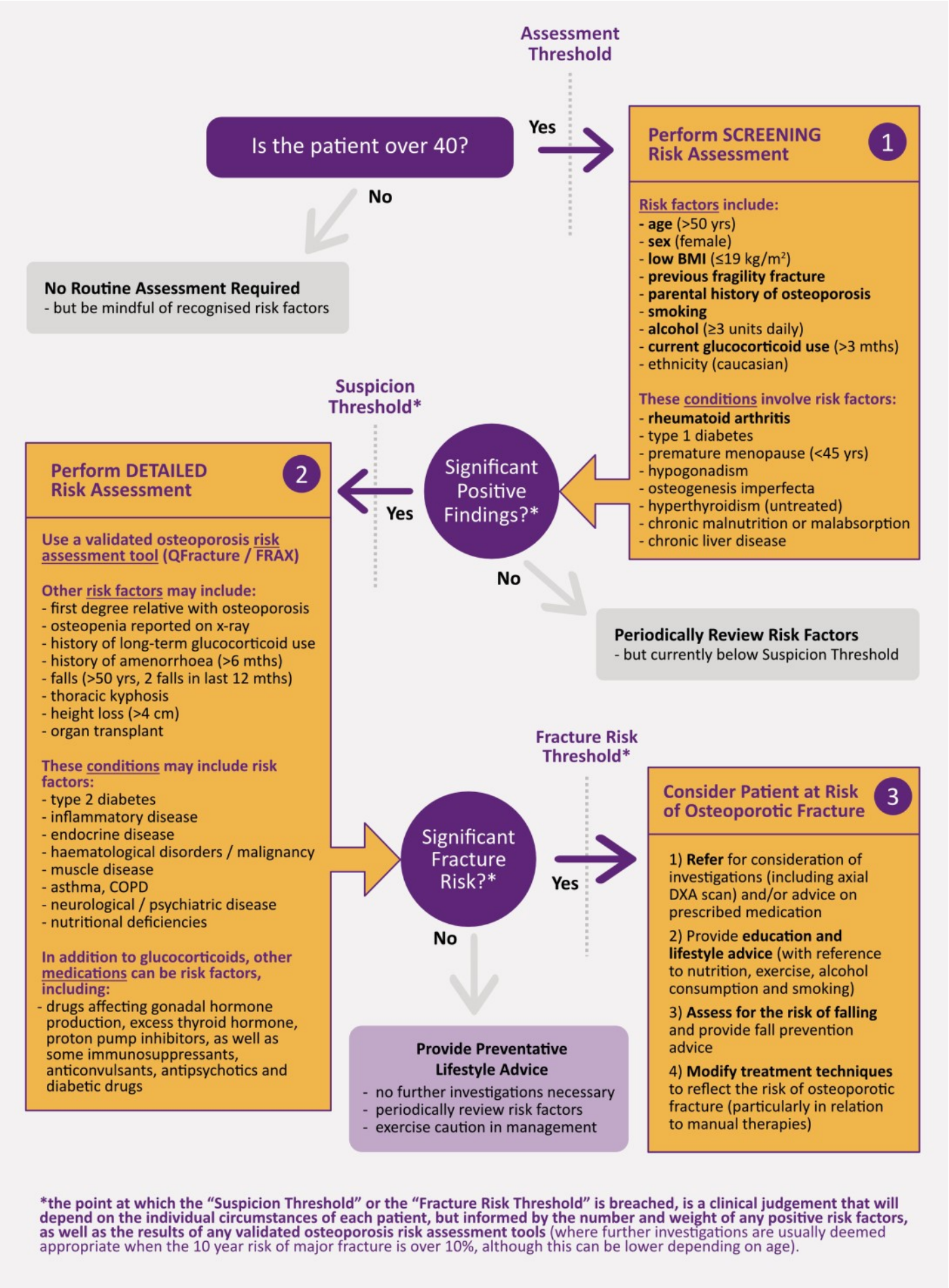
Quality Measures

The quality measures accompanying each quality standard aim to improve the structure, process and outcomes of care. They are not a new set of targets or mandatory indicators for performance management, but might be used to form the basis of future audit. They also specify what each statement means to each stakeholder (provider, commissioners, patients).

Additional Resources

In addition to the quality statements and accompanying quality measures, some supplementary material has been provided that is specifically aimed at supporting chiropractors to adopt the quality standard into clinical practice. These include an assessment and management flowchart, as well as information relating to risk assessment tools, measurement of bone density and a guide to conservative management.

Osteoporosis Assessment and Management Flowchart



***the point at which the "Suspicion Threshold" or the "Fracture Risk Threshold" is breached, is a clinical judgement that will depend on the individual circumstances of each patient, but informed by the number and weight of any positive risk factors, as well as the results of any validated osteoporosis risk assessment tools** (where further investigations are usually deemed appropriate when the 10 year risk of major fracture is over 10%, although this can be lower depending on age).

Risk Assessment Tools

Fracture risk cannot be defined by bone mineral density (BMD) measurement alone as dual energy x-ray absorptiometry (DXA) scanning does not capture the majority of people at risk of breaking a bone[1]. There are numerous risk factors associated with osteoporosis, and there are a number of risk scoring tools that have been developed to quantify the risk[6]. UK guidelines recommend that BMD measurements should not be done without first calculating fracture risk using FRAX and/or QFracture, both of which can be used to calculate a 10-year risk of osteoporotic fracture[2,3,5]. These two risk scoring tools, together with DXA scans, result in two different methods of determining the threshold for pharmacological treatment. Although there is no absolute standard in the various guidelines (and the fracture risk is related to slightly different criteria in the two tools), a 10-year fracture risk of 10% or more is considered to be the level at which a referral for DXA scanning and/or treatment is appropriate[3,5].

QFracture [https://qfracture.org] was developed and validated on a very large and representative UK primary care population and has been specifically designed for use in primary care. It includes additional factors which are not in the FRAX tool, as well as a more detailed assessment of smoking and alcohol intake, and therefore may provide a more individualised assessment of risk[7]. QFracture has been validated for patients aged 30-99 and has the ability to calculate risk in different ethnic groups[5]. For these reasons, QFracture may be the most suitable tool to use in a UK chiropractic primary care setting. In cases of prior fragility fracture, guidelines suggest a DEXA scan without the need for a QFracture score. This may also be the case in other circumstances, when a DXA scan is desirable to help inform interventions when the fracture risk is below the 10% threshold.

FRAX [https://www.sheffield.ac.uk/FRAX/tool.aspx?country=1] has been developed and validated for international use and is more widely used, although may underestimate the risk of fracture compared to other tools[3,5,8]. It has been validated for patients aged 40-90, and there are over 60 different models available in more than 30 languages. The FRAX tool provides helpful graphs of age-related thresholds for DXA assessment, and for treatment[2]. The DXA assessment thresholds fall significantly below the 10-year fracture risk of 10% for those under the age of 70. If the fracture risk probability score is high enough, guidelines advise treatment without the need for a DXA scan. Although FRAX is shorter than QFracture, it can include BMD measurements, so may be more suitable for chiropractors when DXA scan results are available.

Both QFacture and FRAX are targeted at hip and non-vertebral fractures and are poor at predicting vertebral fracture[3]. A DXA scan remains the most reliable method of assessing bone strength and may often be the prudent approach when considering safety and physical interventions of the spine in patients with recognised risk factors.

Measurement of Bone Density

Axial Dual Energy X-Ray Absorptiometry (DXA) assesses bone mineral density of the femoral neck and lumbar spine. It is the reference standard method for assessing BMD and a DXA T-score (standard deviation change in relation to the young healthy population) of less than -2.5 SD at the hip forms the basis of the WHO definition of osteoporosis. Low bone mass (osteopenia) is defined as a T-score of between -1.0 SD and -2.5 SD[1]. The test has a high specificity, but low sensitivity[9].

Peripheral DXA (pDXA) assesses BMD at peripheral sites (usually the forearm or heel). Given the cost and availability of axial DXA in some areas, there are some advantages to the use of less expensive and portable pDXA equipment[10]. pDXA measurements can be used to predict fracture risk, but are less reliable for some fracture sites (particularly the hip and spine) and best used to assist in triaging those patients that may require axial BMD prior to any decision on treatment. pDXA cannot be used with FRAX, and is not suitable for monitoring changes in BMD[10].

Quantitative Ultrasound (QUS) measures bone quality and not bone density, but is a good independent risk factor for future osteoporotic fracture in post-menopausal women[11]. Due to the different technologies, QUS tends to identify different patients from those found to be at greater risk using DXA[5]. However, QUS is another method of risk assessing some patients that may then require further investigation by axial BMD.

Conservative Management Guide

The aim of conservative (non-pharmacological) management of patients with osteoporosis, is to encourage and support patients to make positive changes to the modifiable risk factors of osteoporosis, to reduce the likelihood of falls, and to assist in providing symptomatic relief from vertebral fractures or while recovering from other fragility fractures. This type of care should be offered to all affected patients, including those also receiving pharmacological support.

Chiropractors use a variety of different techniques that are aimed at maximising function, as well as improving posture and balance. Education and advice play an important role, particularly in terms of the modifiable risk factors of osteoporosis, which include bone mineral density (BMD), alcohol intake, weight, smoking, and physical activity.

Lifestyle	Patients should be encouraged not to smoke and to keep alcohol intake to less than 2 units a day[2,5]. Where necessary, patients should be supported to ensure that their BMI is over 20 kg/m^2.
Food and Diet	Patients should consume a healthy balanced diet which contains adequate intake of dietary calcium and vitamin D. Daily calcium intake should be between 700mg and 1200mg, preferably from the diet, but supplemented if necessary[2,5]. Vitamin D deficiency is common and, as well as identifying high risk groups such as those related to age, skin colour and sun exposure, supplementation should be considered by the whole population, at least during the winter months[12,35]. For postmenopausal women and men over 50 who are at risk of osteoporotic fracture, a daily vitamin D supplement of 20µg (800 IU) is advised[2] since it aids calcium absorption. However, recent evidence suggests that vitamin D supplementation does not prevent fractures or make significant improvement to bone density[13].
Physical Exercise	Patients should be supported to exercise to build bone and muscle strength, as well as to improve balance, posture, and movements, and to relieve pain after vertebral fractures[14]. Reassurance about exercise should be provided together with advice to avoid long periods of sitting. Activities must be individualised for each patient depending on their circumstances, but should include a combination of exercise types[5,14]: • weight-bearing / impact exercise • progressive muscle strengthening / resistance exercises • balance and gait exercises • posture and ergonomic advice / exercises The Royal Osteoporosis Society's Strong, Steady and Straight: Expert Consensus Statement on Physical Activity and Exercise for Osteoporosis provides details of various exercise protocols[14].

Conservative Management Guide

Falls Prevention	Patients should be routinely asked whether they have had any slips, trips or falls, have a detailed history taken of the mechanism of any falls, and assessed for the risk of falling[2]. This should be multifactorial and include an assessment of gait, balance and mobility, their perception of functional ability and fear of falling, consideration of any visual, cognitive or neurological impairments, and the potential influence of any prescribed medications[15]. Interventions may include strength and balance training (including Tai Chi or community classes), advice on home hazards, information on how to prevent further falls, or signposting to other services (including falls management services or occupational therapy)[16,17].
Signposting	In addition to referring patients to other healthcare professionals or specific services, there is a wide range of resources that patients can be directed to depending on their individual circumstances. For example, these include smoking cessation and alcohol support services, calcium intake calculators[18], community exercise groups, and specific support groups (e.g. The Royal Osteoporosis Society).

Chiropractic Quality Statement 1: Consideration

Quality Statement	**On initial presentation, all patients over the age of 40 should be assessed for major risk factors of osteoporosis, and considered for the possibility of being at risk of low bone density or osteoporotic fracture, despite these being more commonly seen in postmenopausal women and those over the age of 50.**
Quality Measure	**Structure:** Evidence of practice policies and procedures that all presenting patients over the age of 40 are being assessed for major risk factors of osteoporosis, and considered for the possibility of being at risk of low bone density or osteoporotic fracture. **Process:** Proportion of presenting patients over the age of 40 in which an assessment for major risk factors of osteoporosis has been recorded in their clinical notes. **Numerator:** The number of patients in the denominator in which an assessment for major risk factors of osteoporosis has been recorded in their clinical notes. **Denominator:** The total number of presenting patients over the age of 40.
Description of what the quality statement means for each audience	**Chiropractors** should ensure that all presenting patients over the age of 40 are being assessed for major risk factors of osteoporosis, and considered for the possibility of being at risk of low bone density or osteoporotic fracture. **Commissioners** should look for evidence that chiropractors are assessing all presenting patients over the age of 40 for major risk factors of osteoporosis, and considering the possibility of being at risk of low bone density or osteoporotic fracture. **Patients** over the age of 40 should expect to be assessed for major risk factors of osteoporosis, and considered for the possibility of being at risk of low bone density or osteoporotic fracture.
Source	3. NICE Clinical Guideline 146 - Osteoporosis: assessing risk of fragility fracture (August 2012, updated February 2017) 5. SIGN 142: Management of osteoporosis and the prevention of fragility fractures - Scottish Intercollegiate Guidelines Network (March 2015) 19. Quality Standards for Osteoporosis and Prevention of Fragility Fractures - National Osteoporosis Society (November 2017) 20. Complementary and alternative therapies and osteoporosis - National Osteoporosis Society (August 2014)

Chiropractic Quality Statement 2: Assessment

Quality Statement	**Patients should be assessed for osteoporosis and the risk of osteoporotic fracture by means of a full clinical history, including consideration of the numerous risk factors of osteoporosis, and appropriate use of validated risk assessment tools** *(see Assessment and Management Flowchart).*
Quality Measure	**Structure:** Evidence of practice policies relating to the assessment of patients for osteoporosis and the risk of osteoporotic fracture, including the use of validated risk assessment tools. **Process 1:** Proportion of patients over the age of 40 that have a record in their clinical notes that they have been assessed by means of a full clinical history, including consideration of the numerous risk factors of osteoporosis. **Numerator 1:** The number of patients in the denominator that have a record in their clinical notes that they have been assessed by means of a full clinical history, including consideration of the numerous risk factors of osteoporosis. **Denominator 1:** The total number of patients over the age of 40 **Process 2 :** Proportion of patients that have significant positive osteoporosis risk factors that have been assessed by the use of validated risk assessment tool. **Numerator 2:** The number of patients in the denominator that been assessed by the use of validated risk assessment tool. **Denominator 2:** The total number of patients with significant positive osteoporosis risk factors.
Description of what the quality statement means for each audience	**Chiropractors** should ensure that their clinical history of patients over the age of 40 includes consideration of the numerous risk factors of osteoporosis and, if they have significant positive osteoporosis risk factors, the use of validated risk assessment tool. **Commissioners** should ensure that the necessary policies and procedures are in place to carry out and record a full clinical history of patients over the age of 40 that includes consideration of the numerous risk factors of osteoporosis and, if appropriate, the use of validated risk assessment tool. **Patients** over the age of 40 should expect to have a detailed history taken, including consideration of the risk factors for osteoporosis, and further assessment carried out if significant positive risk factors are identified.
Source	1. Assessment of osteoporosis at the primary health care level - Kanis JA and the World Health Organisation Scientific Group, World Health Organisation Collaborating Centre for Metabolic Diseases, University of Sheffield (2007) 2. NOGG 2017: Clinical guideline for the prevention and treatment of osteoporosis - National Osteoporosis Guideline Group (March 2017) 3. NICE Clinical Guideline 146 - Osteoporosis: assessing risk of fragility fracture (August 2012, updated February 2017) 4. Clinical Guidance for the Effective Identification of Vertebral Fractures – National Osteoporosis Society (November 2017) 5. SIGN 142: Management of osteoporosis and the prevention of fragility fractures - Scottish Intercollegiate Guidelines Network (March 2015) 15. NICE Clinical Guideline 161 - Falls in older people: assessing risk and prevention (June 2013) 19. Quality Standards for Osteoporosis and Prevention of Fragility Fractures – National Osteoporosis Society (November 2017) 21. Defining ethnic and racial differences in osteoporosis and fragility fractures - JA Cauley et al., Clinical Orthopaedics & Related Research 2011; 469(7):1891-1899 (July 2011) 22. Derivation and validation of updated QFracture algorithm to predict risk of osteoporotic fracture in primary care in the United Kingdom: prospective open cohort study - J Hippisley-Cox et al., British Medical Journal 2012; 344:e3427 (May 2012) 23. FRAX Fracture Risk Assessment Tool - Centre for Metabolic Diseases, University of Sheffield (2018)

Chiropractic Quality Statement 3: Identification

Quality Statement	**Patients are considered as being at risk of having osteoporosis or an osteoporotic fracture depending on their individual circumstances but informed by the number and weight of positive risk factors, as well as the results of a risk assessment tool predicting 10-year fracture probability** *(see Assessment and Management Flowchart).*
Quality Measure	**Structure:** Evidence of a practice policy in relation to the identification of those patients at risk of having osteoporosis or an osteoporotic fracture, which includes an assessment of risk factors and the outcome of risk assessment tools. **Process:** Proportion of patients crossing the threshold of significant fracture risk (determined by an assessment of cumulative risk factors and a predicted 10-year fracture probability) that are identified as being at risk of having osteoporosis or an osteoporotic fracture. **Numerator:** The number of patients in the denominator identified as being at risk of having osteoporosis or an osteoporotic fracture. **Denominator:** The total number of patients crossing the threshold of significant fracture risk (determined by an assessment of cumulative risk factors and a predicted 10 -year fracture probability).
Description of what the quality statement means for each audience	**Chiropractors** should ensure that they have the necessary procedures in place to be able to assess patients' individual circumstances, informed by the number and weight of positive risk factors, and the results of a risk assessment tool predicting 10-year fracture probability, to identify those patients at risk of having osteoporosis or an osteoporotic fracture. **Commissioners** should ensure that the necessary policies and procedures are in place for chiropractors to be able to identify patients that are at risk of having osteoporosis or an osteoporotic fracture by assessing individual circumstances but informed by the number and weight of positive risk factors and the outcome of a risk assessment tool. **Patients** should expect to be identified as being at risk of having osteoporosis or an osteoporotic fracture depending on their individual circumstances but informed by the number and weight of positive risk factors and the outcome of a risk assessment tool.
Source	1. Assessment of osteoporosis at the primary health care level - Kanis JA and the World Health Organisation Scientific Group, World Health Organisation Collaborating Centre for Metabolic Diseases, University of Sheffield (2007) 2. NOGG 2017: Clinical guideline for the prevention and treatment of osteoporosis - National Osteoporosis Guideline Group (March 2017) 3. NICE Clinical Guideline 146 - Osteoporosis: assessing risk of fragility fracture (August 2012, updated February 2017) 4. Clinical Guidance for the Effective Identification of Vertebral Fractures - National Osteoporosis Society (November 2017) 5. SIGN 142: Management of osteoporosis and the prevention of fragility fractures - Scottish Intercollegiate Guidelines Network (March 2015) 15. NICE Clinical Guideline 161 - Falls in older people: assessing risk and prevention (June 2013) 19. Quality Standards for Osteoporosis and Prevention of Fragility Fractures - National Osteoporosis Society (November 2017) 22. Derivation and validation of updated QFracture algorithm to predict risk of osteoporotic fracture in primary care in the United Kingdom: prospective open cohort study - J Hippisley-Cox et al., British Medical Journal 2012; 344:e3427 (May 2012) 23. FRAX Fracture Risk Assessment Tool - Centre for Metabolic Diseases, University of Sheffield (2018) 24. An overview and management of osteoporosis - T Sözen et al., European Journal of Rheumatology 2017; 4:46-56 (March 2017)

Chiropractic Quality Statement 4: Patient-Centred Care

Quality Statement	**Patients identified as being at risk of having osteoporosis or an osteoporotic fracture are given an explanation of the findings and the opportunity to discuss their health beliefs, concerns and preferences; patients are actively involved in shared decision-making and are supported to make fully informed choices about investigations, treatment and care.**
Quality Measure	**Structure:** Evidence of practice policies and procedures with regard to patient-centred care, including providing patients with an explanation of the findings and giving them the opportunity to discuss their health beliefs, concerns and preferences, before supporting them in making fully informed choices. **Process:** Proportion of patients identified as being at risk of low bone density or osteoporotic fracture that have been given an explanation of the findings and had the opportunity to discuss their health beliefs, concerns and preferences, before being supporting to make fully informed choices. **Numerator:** The number of patients in the denominator that have been provided with an explanation of the findings and given an opportunity to discuss their health beliefs, concerns and preferences, before being supported to make fully informed choices. **Denominator:** The total number of patients identified as being at risk of low bone density or osteoporotic fracture.
Description of what the quality statement means for each audience	**Chiropractors** should ensure that patients identified as being at risk of low bone density or osteoporotic fracture are supported in making fully informed choices about their care having been given an explanation of the findings and had the opportunity to discuss their health beliefs, concerns and preferences. **Commissioners** should look for evidence from chiropractors that patients identified as being at risk of low bone density or osteoporotic fracture are actively involved in make fully informed choices about their care having been given an explanation of the findings and had the opportunity to discuss their health beliefs, concerns and preferences. **Patients** identified as being at risk of low bone density or osteoporotic fracture should expect to be informed of any findings, and given the opportunity to discuss their health beliefs, concerns and preferences, before being supported to make fully informed choices about investigations, treatment and care.
Source	3. NICE Clinical Guideline 146 - Osteoporosis: assessing risk of fragility fracture (August 2012, updated February 2017) 5. SIGN 142: Management of osteoporosis and the prevention of fragility fractures - Scottish Intercollegiate Guidelines Network (March 2015) 19. Quality Standards for Osteoporosis and Prevention of Fragility Fractures - National Osteoporosis Society (November 2017) 25. The Code: Standards of conduct, performance and ethics for chiropractors - The General Chiropractic Council (June 2016) 26. NICE Clinical Guideline 138 - Patient experience in adult NHS services (February 2012) 27. Personalised care and support planning handbook: The journey to person-centred care - NHS England (March 2016) 28. Supporting People with Long Term Conditions, Commissioning Personal Care Planning, A Guide for Commissioners - Department of Health (January 2009) 29 The effects of person-centered or other supportive interventions in older women with osteoporotic vertebral compression fractures - a systematic review of the literature - HK Svensson et al., Osteoporosis International 2017; 28(9):2521-2540 (September 2017) 30 A Review of Patient Preferences for Osteoporosis Drug Treatment - M Hiligsmann et al., Current Rheumatology Reports 2015; 17(9):61 (September 2015)

Chiropractic Quality Statement 5: Referral

Quality Statement	**Patients identified as being at significant risk of osteoporotic fracture are referred to their GP for further investigations (for example DXA scanning) and the consideration of prescribed medications** *(see Assessment and Management Flowchart).*
Quality Measure	**Structure:** Evidence of practice policies with regard to GP referrals for further investigations and/or management of patients identified as being at significant risk of osteoporotic fracture. **Process:** Proportion of patients identified as being at significant risk of osteoporotic fracture that are referred to their GP for further investigations. **Numerator:** The number of patients in the denominator that have been referred to their GP for further investigations. **Denominator:** The total number of patients identified as being at significant risk of osteoporotic fracture.
Description of what the quality statement means for each audience	**Chiropractors** should refer patients identified as being at significant risk of osteoporotic fracture for further investigations and/or management. **Commissioners** should look for practice referral policies detailing the referral for further investigations and/or management of patients identified as being at significant risk of osteoporotic fracture. **Patients** who are identified as being at significant risk of osteoporotic fracture should expect to be referred to their GP for further investigations and to be considered for additional treatment by another healthcare professional.
Source	2. NOGG 2017: Clinical guideline for the prevention and treatment of osteoporosis - National Osteoporosis Guideline Group (March 2017) 3. NICE Clinical Guideline 146 - Osteoporosis: assessing risk of fragility fracture (August 2012, updated February 2017) 4. Clinical Guidance for the Effective Identification of Vertebral Fractures - National Osteoporosis Society (November 2017) 5. SIGN 142: Management of osteoporosis and the prevention of fragility fractures - Scottish Intercollegiate Guidelines Network (March 2015) 19. Quality Standards for Osteoporosis and Prevention of Fragility Fractures - National Osteoporosis Society (November 2017) 24. An overview and management of osteoporosis - T Sözen et al., European Journal of Rheumatology 2017; 4:46-56 (March 2017) 25. The Code: Standards of conduct, performance and ethics for chiropractors - The General Chiropractic Council (June 2016) 31. NICE Technology Appraisal Guidance 464 - Bisphosphonates for Treating Osteoporosis (August 2017, updated February 2018)

Chiropractic Quality Statement 6: Plan of Care

Quality Statement	**Patients identified as having low bone density, or as being at risk of osteoporotic fracture, are active participants in the development of individualised care plans that not only relate to their presenting complaint, but also address bone health and aim to reduce the risk of fracture.**
Quality Measure	**Structure:** Evidence of practice policies with regard to involving patients identified as having low bone density, or as being at risk of osteoporotic fracture, in developing care plans to address their bone health and reduce the risk of fracture. **Process:** Proportion of patients identified as having low bone density, or as being at risk of osteoporotic fracture, who have actively participated in developing a care plan addressing their bone health and aiming to reduce the risk of fracture. **Numerator:** The number of patients in the denominator who have actively participated in developing a care plan addressing their bone health and aiming to reduce the risk of fracture. **Denominator:** The total number of patients identified as having low bone density or as being at risk of osteoporotic fracture.
Description of what the quality statement means for each audience	**Chiropractors** should ensure that patients identified as having low bone density, or as being at risk of osteoporotic fracture, are actively involved in developing care plans that address their bone health and aim to reduce the risk of fracture. **Commissioners** should look for evidence from chiropractors that they are actively involving patients identified as having low bone density, or as being at risk of osteoporotic fracture, in developing care plans that address their bone health and support them to reduce the risk of fracture. **Patients** who are identified as having low bone density, or as being at risk of osteoporotic fracture, should expect to be actively involved with their chiropractor in developing a care plan that aims to improve their bone health and reduce the risk of fracture.
Source	3. NICE Clinical Guideline 146 - Osteoporosis: assessing risk of fragility fracture (August 2012, updated February 2017) 15. NICE Clinical Guideline 161 - Falls in older people: assessing risk and prevention (June 2013) 19. Quality Standards for Osteoporosis and Prevention of Fragility Fractures - National Osteoporosis Society (November 2017) 25. The Code: Standards of conduct, performance and ethics for chiropractors - The General Chiropractic Council (June 2016) 26. NICE Clinical Guideline 138 - Patient experience in adult NHS services (February 2012) 27. Personalised care and support planning handbook: The journey to person-centred care - NHS England (March 2016) 29 The effects of person-centered or other supportive interventions in older women with osteoporotic vertebral compression fractures - a systematic review of the literature - HK Svensson et al., Osteoporosis International 2017; 28(9):2521-2540 (September 2017) 32 Management recommendation for osteoporosis in clinical guidelines - M Wang et al., Clinical Endocrinology 2016; 84(5):687-692 (May 12016)

Chiropractic Quality Statement 7: Supportive Self-Management

Quality Statement	**Patients with low bone density, or identified as being at risk of osteoporotic fracture, are provided with education and advice relating to bone health (in addition to any management of their presenting complaint) to support them to engage in self-management strategies relating to lifestyle, including smoking and alcohol consumption, diet and specific exercises.** *(see Conservative Management Guide).*
Quality Measure	**Structure:** Evidence of policies and procedures relating to the provision of education and advice self-management strategies aimed at reducing the risk of osteoporotic fracture, for patients with low bone density, or identified as being at risk of osteoporotic fracture. **Process:** Proportion of patients with low bone density, or identified as being at risk of osteoporotic fracture, that have been provided with education and advice relating to bone health and supported to engage in self-management strategies aimed at reducing the risk of osteoporotic fracture. **Numerator:** The number of patients in the denominator that have been provided with education and advice relating to bone health and supported to engage in self-management strategies aimed at reducing the risk of osteoporotic fracture. **Denominator:** The total number of patients with low bone density or identified as being at risk of osteoporotic fracture.
Description of what the quality statement means for each audience	**Chiropractors** should ensure that they provide patients with low bone density, or those identified as being at risk of osteoporotic fracture, with education and advice relating to bone health and support them to engage in self-management strategies aimed at reducing the risk of osteoporotic fracture. **Commissioners** should seek evidence that chiropractors provide patients with low bone density, or those identified as being at risk of osteoporotic fracture, with education and advice relating to bone health and supporting them to engage in self-management strategies aimed at reducing the risk of osteoporotic fracture. **Patients** who are identified as having low bone density, or as being at risk of osteoporotic fracture, should expect to receive education and advice relating to their bone health and supported to engage in self-management strategies relating to lifestyle, including smoking and alcohol consumption, diet and specific exercises.
Source	2. NOGG 2017: Clinical guideline for the prevention and treatment of osteoporosis - National Osteoporosis Guideline Group (March 2017) 3. NICE Clinical Guideline 146 - Osteoporosis: assessing risk of fragility fracture (August 2012, updated February 2017) 5. SIGN 142: Management of osteoporosis and the prevention of fragility fractures - Scottish Intercollegiate Guidelines Network (March 2015) 14. Strong, Steady and Straight: An Expert Consensus Statement on Physical Activity and Exercise for Osteoporosis - National Osteoporosis Society (December 2018) 19. Quality Standards for Osteoporosis and Prevention of Fragility Fractures - National Osteoporosis Society (November 2017) 24. An overview and management of osteoporosis - T Sözen et al., European Journal of Rheumatology 2017; 4:46-56 (March 2017) 33. Helping people help themselves: A review of the evidence considering whether it is worthwhile to support self-management - D de Silva, The Health Foundation (May 2011)

Chiropractic Quality Statement 8: Falls Prevention

Quality Statement	**Patients with low bone density, or identified as being at risk of osteoporotic fracture, are assessed for the risk of falling and given support and advice to manage and reduce this risk, including being directed to falls management services or occupational therapy, where appropriate** *(see Conservative Management Guide).*
Quality Measure	**Structure:** Evidence of policies and procedures to assess patients with low bone density, or those identified as being at risk of osteoporotic fracture, for the risk of falling and details of support and advice that is given to manage and reduce this risk, including referrals to falls management services or occupational therapy. **Process:** Proportion of patients with low bone density, or identified as being at risk of osteoporotic fracture, that have been assessed for the risk of falling and given support and advice to manage and reduce this risk. **Numerator:** The number of patients in the denominator that have been assessed for the risk of falling and given support and advice to manage and reduce this risk. **Denominator:** The total number of patients with low bone density or identified as being at risk of osteoporotic fracture.
Description of what the quality statement means for each audience	**Chiropractors** should ensure that they assess all patients with low bone density, or identified as being at risk of osteoporotic fracture, for the risk of falling, and give support and advice to manage and reduce this risk. **Commissioners** should seek evidence that chiropractors have the policies and procedures in place to assess patients with low bone density, or those identified as being at risk of osteoporotic fracture, for the risk of falling and provide support and advice to manage and reduce this risk. **Patients** who are identified as having low bone density, or as being at risk of osteoporotic fracture, should expect to be assessed for the risk of falling and given support and advice to manage and reduce this risk.
Source	2. NOGG 2017: Clinical guideline for the prevention and treatment of osteoporosis - National Osteoporosis Guideline Group (March 2017) 3. NICE Clinical Guideline 146 - Osteoporosis: assessing risk of fragility fracture (August 2012, updated February 2017) 5. SIGN 142: Management of osteoporosis and the prevention of fragility fractures - Scottish Intercollegiate Guidelines Network (March 2015) 14. Strong, Steady and Straight: An Expert Consensus Statement on Physical Activity and Exercise for Osteoporosis - National Osteoporosis Society (December 2018) 15. NICE Clinical Guideline 161 - Falls in older people: assessing risk and prevention (June 2013) 19. Quality Standards for Osteoporosis and Prevention of Fragility Fractures - National Osteoporosis Society (November 2017) 24. An overview and management of osteoporosis - T Sözen et al., European Journal of Rheumatology 2017; 4:46-56 (March 2017)

Chiropractic Quality Statement 9: Management of Fractures

Quality Statement	**Patients with new vertebral osteoporotic fractures are referred to their GP, or local fracture liaison service, as well as offered advice, pain co-management strategies and other forms of conservative symptomatic relief.**
Quality Measure	**Structure:** Evidence of policies and procedures for patients with new vertebral osteoporotic fractures to be referred to their GP, or other local fracture service, as well as offered advice, pain co-management strategies and other forms of conservative symptomatic relief. **Process 1:** Proportion of patients with new vertebral osteoporotic fractures that have been referred to their GP, or local fracture service. **Numerator 1:** The number of patients in the denominator that have been referred to their GP, or local fracture service. **Denominator 1:** The total number of patients with a new vertebral osteoporotic fracture. **Process 2:** Proportion of patients with vertebral osteoporotic fractures that have been offered advice, pain co-management strategies and other forms of conservative symptomatic relief. **Numerator 2:** The number of patients in the denominator that have been offered advice, pain co-management strategies and other forms of conservative symptomatic relief. **Denominator 2:** The total number of patients with a new vertebral osteoporotic fracture.
Description of what the quality statement means for each audience	**Chiropractors** should refer patients with new vertebral osteoporotic fractures to their GP, or appropriate local fracture service, as well as offering advice, pain co-management strategies and other forms of conservative symptomatic relief. **Commissioners** should ensure that chiropractors have the necessary policies and procedures in place to refer patients with new vertebral osteoporotic fractures to the appropriate healthcare services, as well as offering advice, pain co-management strategies and other forms of conservative symptomatic relief. **Patients** with new vertebral osteoporotic fractures should expect to be referred to their GP, or other healthcare service, as well as offered advice, pain management strategies and other forms of conservative symptomatic relief.
Source	2. NOGG 2017: Clinical guideline for the prevention and treatment of osteoporosis - National Osteoporosis Guideline Group (March 2017) 3. NICE Clinical Guideline 146 - Osteoporosis: assessing risk of fragility fracture (August 2012, updated February 2017) 4. Clinical Guidance for the Effective Identification of Vertebral Fractures - National Osteoporosis Society (November 2017) 5. SIGN 142: Management of osteoporosis and the prevention of fragility fractures - Scottish Intercollegiate Guidelines Network (March 2015) 14. Strong, Steady and Straight: An Expert Consensus Statement on Physical Activity and Exercise for Osteoporosis - National Osteoporosis Society (December 2018) 19. Quality Standards for Osteoporosis and Prevention of Fragility Fractures - National Osteoporosis Society (November 2017) 25. The Code: Standards of conduct, performance and ethics for chiropractors - The General Chiropractic Council (June 2016) 34. Effective Secondary Prevention of Fragility Fractures: Clinical Standards for Fracture Liaison Services - National Osteoporosis Society (April 2015)

Chiropractic Quality Statement 10: Multidisciplinary Care

Quality Statement	**When managing patients with low bone density, or those identified as being at risk of osteoporotic fracture, chiropractors are mindful of the role of other healthcare professionals (and the management options available to them), write detailed reports to patients' GPs, and make referrals for appropriate assessment and management.**
Quality Measure	**Structure:** Evidence of practice policy with regard to recognising the role of other healthcare professionals in the management of patients with low bone density, or those identified as being at risk of osteoporotic fracture, keeping them informed of assessment and care, and the need for appropriate referrals. **Process:** Proportion of patients with low bone density, or those identified as being at risk of osteoporotic fracture, who have had a detailed report written to their GP. **Numerator:** The number of patients in the denominator who have had a detailed report written to their GP. **Denominator:** The total number of patients with low bone density, or those identified as being at risk of osteoporotic fracture.
Description of what the quality statement means for each audience	**Chiropractors** should be mindful of the role of other healthcare professionals in the assessment and management of patients with low bone density, or those identified as being at risk of osteoporotic fracture, and write detailed reports on their findings and management, as well as making appropriate referrals. **Commissioners** should seek evidence of chiropractors providing multidisciplinary care by informing and collaborating with other healthcare professional for the benefit of patients, as well as writing reports and referring patients as appropriate. **Patients** with low bone density, or those identified as being at risk of osteoporotic fracture, should expect their chiropractor to be aware of the role of other healthcare professionals, to write to their GP, and to refer them if they feel that it is in their best interests.
Source	2. NOGG 2017: Clinical guideline for the prevention and treatment of osteoporosis - National Osteoporosis Guideline Group (March 2017) 3. NICE Clinical Guideline 146 - Osteoporosis: assessing risk of fragility fracture (August 2012, updated February 2017) 19. Quality Standards for Osteoporosis and Prevention of Fragility Fractures - National Osteoporosis Society (November 2017) 25. The Code: Standards of conduct, performance and ethics for chiropractors - The General Chiropractic Council (June 2016)

Chiropractic Quality Statement 11: Monitoring and Reassessment

Quality Statement	**The needs of patients with osteoporosis and those identified as being at risk of osteoporotic fracture are continually kept under review by regular formal reassessments and their care plans amended as necessary.**
Quality Measure	**Structure:** Evidence of policies and procedures with regard to the regular reassessment of patients with osteoporosis, and those identified as being at risk of osteoporotic fracture, and the amendment of care plans as necessary. **Process:** Proportion of patients with osteoporosis, and those identified as being at risk of osteoporotic fracture, that have a record in their clinical notes that they have been kept under review by regular formal reassessments. **Numerator:** The number of patients in the denominator that have a record in their clinical notes that they have been kept under review by regular formal reassessments. **Denominator:** The total number of patients with osteoporosis and those identified as being at risk of osteoporotic fracture.
Description of what the quality statement means for each audience	**Chiropractors** should continually review patients with osteoporosis, and those identified as being at risk of osteoporotic fracture, and carry out regular formal documented reassessments, amending care plans as necessary. **Commissioners** should expect to see evidence of regular formal assessment of patients with osteoporosis, and those identified as being at risk of osteoporotic fracture. **Patients** with osteoporosis, and those identified as being at risk of osteoporotic fracture, should expect to be formally reassessed on a regular basis and be actively involved in any amendment to their care plan.
Source	19. Quality Standards for Osteoporosis and Prevention of Fragility Fractures - National Osteoporosis Society (November 2017) 25. The Code: Standards of conduct, performance and ethics for chiropractors - The General Chiropractic Council (June 2016) 26. NICE Clinical Guideline 138 - Patient experience in adult NHS services (February 2012)

Chiropractic Quality Standard

Osteoporosis

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