Is a Treat-to-Target Strategy in Osteoporosis Applicable in Clinical Practice? A European Expert Consensus

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Short title: Treat-to-Target Strategy in Osteoporosis

SUPPLEMENTARY INFORMATION

Suppl. 1 Evolution of statements posed to Delphi panellists

	Survey 1		Survey 2		Survey 3		Notes
	Statement	**Results**	**Statement**	**Results**	**Statement**	**Results**	
Statement 1	The ultimate management goal for patients who have experienced a fragility fracture is to prevent further fragility fractures.	10 strongly agree; 2 agree Feedback that managing the prevalent fracture is also important	The two most important management goals for patients who have experienced a fragility fracture are to maximise recovery of pre-fracture functional level and to prevent new fractures.	12 strongly agree No further refinement necessary	NA	NA	Consensus reached in Survey 1, but refinement based on participant comments allowed the strength of consensus to be increased
Statement 2	In addition to a clear clinical treatment target, agreeing on individualised management goals with each patient would have value in clinical practice.	9 strongly agree; 1 agree; 1 disagree; 1 strongly disagree Sentiment of statement encompassed by Statement 6 (Survey 1) and Statement 2 (Survey 3)	The preservation of independence is the most important treatment goal for patients with fragility fracture reflecting freedom from fractures and can be measured by physical function/activity of daily living (ADL). Another important management goal is achievement of treatment adherence targets, although specific	6 strongly agree; 4 agree; 2 disagree	Specific treatment goals should be determined by patients' individual problems or concerns.	9 strongly agree; 2 agree; 1 disagree	Consensus reached on Survey 1, but to prevent repetition of Statement 6 and also based on participant comments on the treatment goals posed in Survey 2, the original statement was refined, allowing the strength of consensus to be increased
Statement 3	Exploratory questions				The preservation of independence is often the most	6 strongly agree; 6 agree	Consensus reached in Survey 2, but refinement based

	Survey 1		Survey 2		Survey 3		Notes
	Statement	**Results**	**Statement**	**Results**	**Statement**	**Results**	
			goals should be determined by patients' individual problems or concerns.		important treatment goal for patients with fragility fracture, reflecting freedom from fractures. It can be measured, for example, by physical function and activities of daily living (ADL).		on participant comments and splitting the statement into clear, separate ideas allowed the strength of consensus to be increased
Statement 4	Exploratory questions				Treatment adherence is an important means to achieve treatment goals including freedom from fractures and, consequently, preservation of patient independence.	10 strongly agree; 2 agree	
Statement 5	Exploratory questions		The ideal approach to achieve management goals for fragility fracture is to set a treatment target with patients and make therapeutic decisions based on the probability of reaching that target.	2 strongly agree; 9 agree; 1 unable to answer Feedback that the word 'ideal' should be replaced with 'best' to relate to clinical practice	The best approach to achieve management goals for fragility fracture is to set a treatment target with patients and make therapeutic decisions based on the probability of reaching that target.	10 strongly agree; 2 agree	Consensus reached in Survey 2, but refinement based on participant comments allowed the strength of consensus to be increased

	Survey 1		Survey 2		Survey 3		Notes
	Statement	**Results**	**Statement**	**Results**	**Statement**	**Results**	
Statement 6	A treatment target that represents achievement of an acceptable level of fracture risk would have value in clinical practice.	8 strongly agree; 3 agree; 1 disagree No option for refinement identified	NA	NA	NA	NA	None
Statement 7	Exploratory questions		Exploratory questions		A single overarching treatment target of low fracture risk can be established for most post-fracture patients and would require different approaches to achieve; however, this will not be feasible for some patients who require a personalised target.	6 strongly agree; 5 agree; 1 unable to answer	New statement derived from Survey 2 responses
Statement 8	Exploratory questions		Exploratory questions		Truly goal-directed treatment plans, which best work towards the overall goal of fracture prevention and achieve the BMD treatment target, will require more potent therapies	8 strongly agree; 4 agree	New statement derived from Survey 2 responses

	Survey 1		Survey 2		Survey 3		Notes
	Statement	**Results**	**Statement**	**Results**	**Statement**	**Results**	
					than are currently available.		
Statement 9	There is a need for practical guidance on how to use different treatments in patients with fragility fracture, including in what sequence, with what aim/target and in which patients.	9 strongly agree; 3 agree No option for refinement identified	NA	NA	NA	NA	None
Statement 10	Exploratory questions		Exploratory questions		Bone mineral density (BMD), assessed via DXA scan, is the best available surrogate of fracture risk and therefore the most clinically appropriate treatment target for most fragility fracture patients.	7 strongly agree; 4 agree; 1 disagree	New statement derived from Survey 1 and Survey 2 responses
Statement 11	Exploratory questions		Please select the specific BMD T-score below you believe to be the most clinically appropriate treatment target (i.e. can be	3 (−2.5); 5 (−2); 4 (between −1 and −1.5)	The target T-score should be set at a level associated with no increase in risk of fracture (e.g. between −2.5 and −1.0 at the total hip),	3 strongly agree; 6 agree; 1 disagree; 2 unable to answer	New statement derived from Survey 2 responses

	Survey 1		Survey 2		Survey 3		Notes
	Statement	**Results**	**Statement**	**Results**	**Statement**	**Results**	
			established for most patients).		depending on what is feasible for the patient to achieve.		
Statement 12	Exploratory questions		The timepoint at which to assess whether the treatment target has been achieved (e.g. after n years of treatment) should be established after starting treatment, on an individual basis.	4 strongly agree; 6 agree; 2 disagree - no option for further refinement identified	NA	NA	New statement derived from Survey 1 responses
Statement 13	Exploratory questions		Please select the frequency of BMD monitoring you believe to be the most clinically appropriate.	1 (1–2 years); 1 (18–24 months); 7 (2–3 years); 3 (individualised) Comments indicated that it varies depending on treatment	The frequency of BMD monitoring is dependent on the type of treatment (e.g. every 2–3 years for antiresorptives and yearly for bone-forming treatments).	6 strongly agree; 4 agree; 2 disagree	New statement derived from Survey 2 responses

1 ADL: activities of daily living; BMD: bone mineral density; DXA: dual-energy X-ray absorptiometry; NA: not applicable