

Recommendation from the Danish Health Technology Council concerning

Non-surgical treatment of distal radius fractures in patients older than 65 years

Recommendation from the Danish Health Technology Council:

The Danish Health Technology Council recommends non-surgical treatment rather than surgery of distal radius fractures in patients older than 65 years.

About this recommendation:

The recommendation is based on the conclusion that non-surgical treatment of distal radius fractures results in equivalent clinical outcomes when compared to surgical treatment in patients over 65 years. Based on the available scientific literature, it has been observed that patients in this age group do not exhibit a clear preference for a specific type of treatment. Non-surgical treatment may provide a cost-saving alternative to surgical treatment, which is primarily attributed to an optimized use of human resources and surgical capacity.

The Council suggests implementation of this recommendation is preceded by a clinical guideline that specifies when surgical treatment should be considered.

The recommendation is based on a selected number of studies with moderate to high levels of evidence quality, chosen for their applicability to Danish clinical practice.

The potentials of increased use of non-surgical treatment are the optimized use of resources, reduction of surgical waiting lists, and reduced sub-acute and planned surgeries that are cancelled and rescheduled.

The Council notes that the current clinical practice varies across regions and hospitals. This potentially impacts the number of surgeries that can be converted to non-surgical treatment, and thus the potential experienced organizational impact.

The Council notes individual patient needs and conditions should be considered in dialogue with patients when choosing between treatment alternatives. Moreover, surgical treatment should only be considered if specific conditions are met.

About the technology	Non-surgical treatment includes stabilizing a fracture with an immobilizing bandage, aimed at ensuring that the fracture heals in a satisfactory position. Non-surgical treatment is currently the preferred method for addressing distal radius fractures, with surgical treatment being an alternative option. The recommendation concerns patients over 65 years of age who are currently treated surgically, but who can achieve the same effect from non-surgical treatment.
Patient population	The recommendation concerns the treatment of patients over 65 years of age with distal radius fractures of AO classification types A2, A3 and AO C1-3. Age is used in the assessment as an indication of functional level. However, the Council stresses the importance of conducting an individual assessment of each patient's functional level.
Scope of application	The recommendation applies to treatments of distal radius fractures performed at Danish public hospitals. The recommendation may have an impact on clinical practice at orthopaedic surgery departments, including orthopaedic surgical outpatient clinics.
Implementation	The Danish Health Technology Council assesses there are no significant changes associated with an increased use of non-surgical treatment, which is important for the implementation of a positive recommendation. Non-surgical treatment is widely recognized and frequently utilized in Danish hospitals. Subsequent implementation is therefore independent of e.g. wider competence development but to a greater extent conditioned by a behavioural change in clinicians.
Procurement procedure	No proposal for a national procurement or tendering procedure.

The Expert Committee's summary of the assessment report

About the assessment

The recommendation of the Danish Health Technology Council is based on the assessment report regarding non-surgical treatment of distal radius fractures in patients over 65 years. The assessment aims to address the following question:

Should non-surgical treatment be used for distal radius fractures in patients over 65 years rather than surgical treatment?

Clinical effectiveness and safety

The analysis of Clinical Effectiveness and Safety aims to evaluate the efficacy of non-surgical and surgical treatments for dorsally displaced distal radius fractures in patients over 65 years. The Clinical Effectiveness and Safety perspective is based on three randomised controlled trials. The results from the studies indicate that for all selected outcomes among patients over 65 years with a dorsally displaced distal radius fracture, no clinically relevant difference occurs. However, a statistically significant difference in favour of surgical treatment appears for the outcomes 'physical function' measured as the median score for Quick-DASH at six months, 'physical function' measured as the median score for PRWHE at 12 months, and the meta-analysis estimate for 'health-related quality of life', and 'grip strength'. The GRADE assessment indicates that there is low confidence in the generalizability of the results.

Based on the included studies, the Expert Committee assesses there is no clinically relevant difference in the outcomes. However, the Expert Committee notes that there is a relatively large spread in the results, indicating heterogeneity in the patient groups in the studies. This can potentially make it harder to choose between treatments. Furthermore, the Expert Committee points out that the measuring tools may be inaccurate and do not necessarily capture an actual difference. However, the Expert Committee notes the measuring tools used are currently the best available.

Overall, the Expert Committee concludes that non-surgical treatment may be equivalent to surgical treatment among patients over 65 years with a dorsally displaced distal radius fracture seen in relation to the included outcomes and existing evidence, where the average age is 75 years (min 65 years; max. 92 years). However, the Expert Committee notes these are comparisons at a group level, which is why a treatment decision should depend on an individual assessment that includes factors such as functional level, comorbidity and fracture type.

Patient perspective

Four studies were included that contained elements concerning patients' choices, preferences and attitudes towards the treatment of wrist fractures. Based on the content of the included articles, there is no clear preference for the treatment option within the patient population in question. Additionally, there is a variance in the degree to which patients want to participate in the actual decision of which treatment option they receive. Two important factors have

been identified that may be significant for the preference of the treatment option: independence and insecurity. Independence is a theme that covers the possibility of acting independently of the help of others. Insecurity, on the other hand, covers the risk factors that are particularly associated with surgical treatment. The Expert Committee notes that one theme, insecurity, is only identified with surgical treatment. Based on the included studies, it has not been possible to identify patients' experience of insecurity associated with non-surgical treatment.

The Expert Committee emphasizes that communication between doctors and patients should focus on understanding the patient's preferences and considerations. Furthermore, the Expert Committee notes that shared decision-making is key for choosing treatment option. However, special consideration should be given to the clinical indications that may determine the choice of treatment option. The patient representative in the Expert Committee remarks former patients have expressed a return to full function and high professionalism of the doctor, as important.

Based on the mapping of the care pathways for non-surgical and surgical treatment of distal radius fractures, these, in terms of number of controls and rehabilitation courses, are deemed comparable. The differences between the two treatment alternatives are primarily the surgical procedure performed for patients receiving surgical treatment. For non-surgical treatment, an X-ray examination is performed at the check-up after 10-14 days, which is not performed in surgical treatment. The Expert Committee notes that there is variation in care pathways between regions, hospitals and patients that are not included in the present study. This means that additional differences may occur between the two treatment courses.

Organizational implications

By rescheduling half of the surgeries currently performed on distal radius fractures in patients over 65 years, there is a potential to gain surgical capacity equivalent to approximately 1000 surgeries every year. The Expert Committee emphasizes that any gain in staff time and surgical capacity is expected to contribute to promoting the timeliness of surgical treatments within the orthopaedic surgical specialty, help reduce waiting lists and the number of sub-acute and planned surgeries that are cancelled and rescheduled. The Expert Committee notes that there are significant interregional differences in the proportion of the patient population currently receiving surgical treatment and therefore a difference in the number of surgeries expected to be able to be converted to non-surgical treatment.

Concerning the question of task relocation through increased use of non-surgical treatment, it has not been possible to identify relevant literature or evidence that could contribute to the answer. The Expert Committee assesses there will not be a significant difference in the proportion of patients that will be referred to own training, municipal or regional rehabilitation, but stresses that the necessary data to support this is not available.

To elucidate the health economic perspective, a cost analysis has been made reflecting the economic consequences per patient of using non-surgical treatment rather than surgical treatment. Results show that non-surgical treatment is associated with a cost saving of approximately DKK 9,900 per patient. Sensitivity analyses does not change the conclusion that non-surgical treatment is cost saving compared to surgical treatment. The Expert Committee is aware of that there may be derived costs that are not included in the present analysis, as a result of transfer of costs to other sectors or costs that arise after the examined time horizon of 12 months.

In the health economic study by Hassellund et al., differences in costs between non-surgical and surgical treatment are calculated. In accordance with the results of the present cost analysis, the study shows that non-surgical treatment is associated with savings compared to surgical treatment. The study calculated a saving of DKK 11,434 per patient. Deviations between the two results are expected to be attributed to costs associated with hospitalization, rehabilitation, etc., which are not included in the present cost analysis.

Health economics

The budget impact analysis indicates that implementing a positive recommendation of non-surgical treatment, resulting in 50% of the surgeries performed today being converted to non-surgical treatment, will result in a total budget impact of approximately DKK -43 million over a five-year period. Sensitivity analyses show that the size of the budget impact depends on the proportion of surgical treatments carried out under current clinical practice and the proportion of surgeries that are expected to be converted to non-surgical treatment. Due to variation between regions and hospitals, the Expert Committee emphasizes that the potentials associated with increasing the proportion of non-surgical treatments may have been fully or partially fulfilled prior to the present assessment.

Based on the health economic perspective, the Expert Committee assesses that non-surgical treatment is a cost-saving treatment compared to surgical treatment. It is noted that any savings are not achievable in monetary form but should be considered as a gain in resources that can be used to facilitate timely surgical treatment within the orthopedic area.

About the recommendation from the Danish Health Technology Council

The Danish Health Technology's recommendation is addressed to the regions for use in their decision on the use of a given health technology or the organisation of a treatment area. The assessment report reviews the following perspectives: 1) Clinical efficacy and safety, 2) The patient perspective, 3) Organizational implications and 4) Health economics.

This recommendation is based on the Danish Health Technology Council's assessment report on non-surgical treatment for patients over 65 years of age, which has been prepared jointly by the Expert Committee and the Secretariat. The assessment report has been prepared on the basis of the assessment design as well as the Danish Health Technology Council's process manual and method guide. The terms of reference of the Expert Committee, together with the other documents, are available on the website of the Danish Health Technology Council.

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