

# Hand osteoarthritis

## an important, common but neglected cause of pain, disability and frustration

The hands are one of the sites most frequently affected by osteoarthritis (OA), which can cause knobby swellings ('nodes') and pain, aching and stiffness in the finger joints (Fig 1). There are different types of hand OA depending on which of the many joints are affected. Fig. 2 shows the common sites of OA in the hand joints. These are the interphalangeal joints (highlighted in red), and the thumb base joints (blue).

One of the rarer but more symptomatic 'erosive' type of hand OA involves joint inflammation and erosions (eroded areas of bone seen on X-rays). Erosive hand OA tends to lead to more severe hand problems, including increased pain, reduced function and grip strength. We found that erosive OA affects the same hand joints, in the same order of frequency, and has the same symmetrical patterning across both hands as moderate and severe hand OA, suggesting that it is a more severe form of hand OA, as opposed to a separate disease.

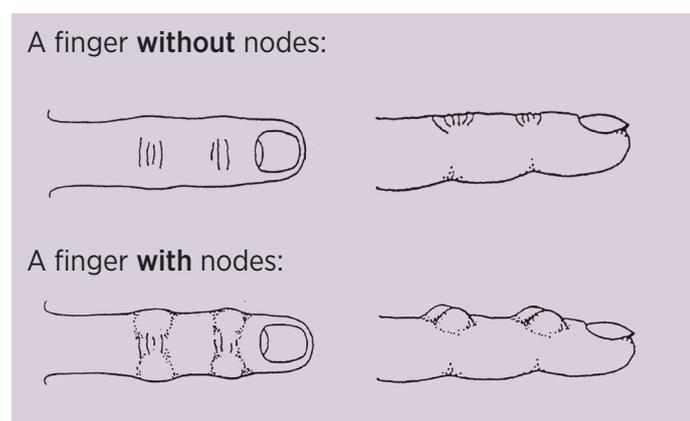


Figure 1. A finger node is a firm, knobbly pea-sized swelling on the back of a finger joint (O'Reilly et al, 1999)

### How common is hand OA?

Hand OA is more common in older adults, affecting more women (1 in 4) than men (1 in 7). In a study of people aged 50 years and over with hand pain in the past month we found that:

- a combination of both thumb and finger OA occurred most frequently
- thumb base OA occurred in isolation more often than finger OA alone (with or without nodes)
- erosive OA was the least common form

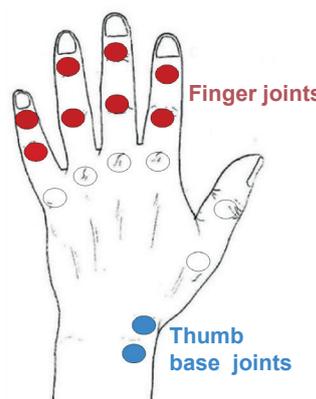


Figure 2. The joints of the hand

### Who is most likely to develop hand OA?

Hand OA is associated with increasing age, and is commoner in women and those with a family history of hand OA. Possible risk factors include occupations or hobbies that involve intense and prolonged repetitive movements and hand injuries, being overweight, having high blood pressure, raised blood fats and diabetes have also been linked with hand OA.

### Diagnosis and Assessment

Hand OA can be diagnosed clinically without the use of x-ray (NICE). Hand OA often co-exists with other conditions such as carpal tunnel syndrome and trigger finger but hand OA has the greatest impact and this may be as severe as for rheumatoid arthritis.

Individuals with hand OA experience frustration because of their hand problems and acknowledging this can be helpful. The number of adaptations an individual makes because of their hand problem corresponds with the level of functional difficulties they experience. The inability to make a full fist with all fingers tucked into the palm of their hand and their thumb fully 'opposed' across the digits is an indication of functional difficulties.

### Management for hand OA

Trials have been conducted to evaluate the effectiveness of treatment for hand OA, and in clinical practice painful hand OA may be managed with:

- information provision (from health professionals)
- weight management (where relevant)
- education on joint health
- hand exercises
- analgesics (e.g. topical NSAIDs, capsaicin)
- joint injection for thumb base OA
- thumb splinting

NICE recommends referral to an occupational therapist for more specialist advice and assessment. We showed that individuals with hand OA in primary care who attended occupational therapy classes on joint protection education are twice as likely to respond to treatment at six months than if they had not received the classes. We found hand exercises to be cost-effective at twelve months.

### References

- Dziedzic K, Nicholls E, Hill S, Hammond A, Handy J, Thomas E, Hay E.** Self-management approaches for osteoarthritis in the hand: a 2x2 factorial randomised trial. *Ann Rheum Dis.* 2015;74(1):108-18. DOI: 10.1136/annrheumdis-2013-203938.
- Oppong R, Jowett S, Nicholls E, Whitehurst DG, Hill S, Hammond A, Hay EM, Dziedzic K.** Joint protection and hand exercises for hand osteoarthritis: an economic evaluation comparing methods for the analysis of factorial trials. *Rheumatology (Oxford).* 2015;54(5):876-83. DOI: 10.1093/rheumatology/keu389.
- O'Reilly S, Johnson S, Doherty S, Muir K, Doherty M.** Screening for hand osteoarthritis (OA) using a postal survey. *Osteoarthritis Cartilage.* 1999; 7(5):461-5. DOI: 10.1053/joca.1999.0240
- Hill S, Dziedzic KS, Nio Ong B.** Patients' perceptions of the treatment and management of hand osteoarthritis: a focus group enquiry. *Disabil Rehabil.* 2011;33(19-20):1866-72. DOI: 10.3109/09638288.2010.550381.
- Marshall M, Peat G, Nicholls E, van der Windt D, Myers H, Dziedzic K.** Subsets of symptomatic hand osteoarthritis in community-dwelling older adults in the United Kingdom: prevalence, inter-relationships, risk factor profiles and clinical characteristics at baseline and 3-years. *Osteoarthritis Cartilage.* 2013;21(11):1674-84. DOI: 10.1016/j.joca.2013.08.004.
- Marshall M, Nicholls E, Kwok WY, Peat G, Kloppenburg M, van der Windt D, Myers H, Dziedzic K.** Erosive osteoarthritis: a more severe form of radiographic hand osteoarthritis rather than a distinct entity? *Ann Rheum Dis.* 2015;74(1):136-41. DOI: 10.1136/annrheumdis-2013-203948.
- National Institute for Health and Clinical Excellence.** NICE guideline on osteoarthritis: The care and management of osteoarthritis in adults, NICE clinical guideline 177, 2014. <http://guidance.nice.org.uk/CG177>.
- National Institute for Health and Clinical Excellence.** Quality standard for osteoarthritis (QS87), 2015. <https://www.nice.org.uk/guidance/qs87>

### Funding

The Clinical Assessment Study of the Hand was supported by programme grants awarded by the Medical Research Council (G9900220) and Arthritis Research UK (18174) and service support through West Midlands North CLRN. Thanks to Arthritis Research UK for funding the SMOtH study.

## KEY MESSAGES

### For Patients

- ◆ Seek advice if hand symptoms are troublesome or disabling: there are effective treatments
- ◆ Read our Hand OA Leaflet (<https://tinyurl.com/ycb8o4um>)
- ◆ Look at the Osteoarthritis Guidebook ([www.keele.ac.uk/media/keeleuniversity/ri/primarycare/pdfs/OA\\_Guidebook.pdf](http://www.keele.ac.uk/media/keeleuniversity/ri/primarycare/pdfs/OA_Guidebook.pdf))

### For Clinicians

- ◆ Consideration should be given to referral to occupational therapy for people with reduced hand function
- ◆ Advice on weight loss (where relevant)
- ◆ Joint protection techniques such as those recommended by Arthritis Research UK <https://goo.gl/R8brLZ>
- ◆ Hand exercises such as those recommended by Arthritis Research UK <https://goo.gl/faMNTG>



### For Healthcare Service Commissioners

- ◆ Hand OA is a common problem, causing a lot of potentially preventable disability in the community, and it may be under-treated
- ◆ Adequate access to occupational therapy is needed for those with functional impairment

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