



Recommendation 5: Radiographs in Patients with UPIA

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Learning Objectives



At the end of this section participants should be able to:

- **State which x-rays to order and how often**
- **Describe the value of radiographic changes in the evaluation and management of patients with UPIA**
- **State the importance of identifying x-ray changes (particularly erosions) at baseline and monitoring over time**

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Recommendation 5



Radiographs of affected joints should be performed at baseline [5, D].

Radiographs of hands, wrists, and feet should be considered in the evaluation of UPIA, as presence of erosions is predictive for the development of RA and persistence of disease [1a, A].

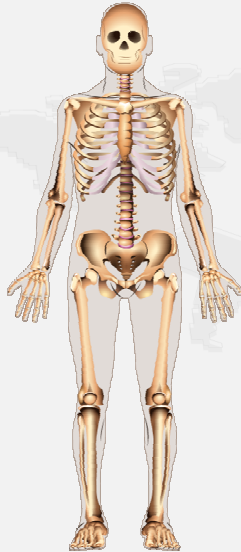
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This recommendation had an agreement of just 7.4/10 and 36% of rheumatologists did not want the recommendation to change their practice.

Undifferentiated Arthritis



Undifferentiated Arthritis

- Early stage of classifiable disease
- Part of an overlap of disease
- Partial form of a defined disease
- Disease of unknown origin

UA envelops a heterogeneous group of recent onset arthritides that are not classifiable within established criteria sets such as those of the American College of Rheumatology (ACR) and The European League Against Rheumatism (EULAR).

UA may represent an early stage of a classified form of arthritis that will eventually be definable; an overlap of more than one disease; a partial form of a defined disease; or a disease of unknown origin. UA overall has a better prognosis than RA as it encompasses a spectrum of self-limited disorders. As compared to RA, a patient with UA usually presents with fewer affected joints, less radiographic erosions, better functional ability, and a greater likelihood of being seronegative. Patients with UA are also less likely than patients with RA to require treatment that involves the use of corticosteroids (such as Prednisone) or DMARDs and a substantial proportion of UA patients remit spontaneously.

Hitchon CA, Peschken CA, Shaikh S, El-Gabalawy HS. Early undifferentiated arthritis. *Rheum Dis Clin N Am*. 2005;31:605-626.

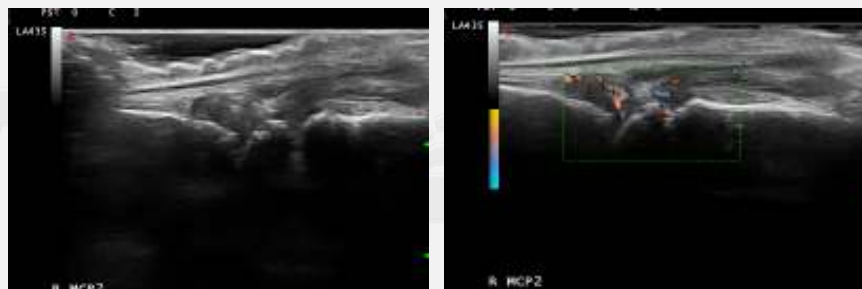
Early RA



Early RA

Changes on X-ray may help diagnostically, as different forms of inflammatory arthritis yield different X-ray changes.

Detection of erosions is important for UPIA diagnosis and prognosis



This slide shows a typical erosion of rheumatoid arthritis.

Baseline X-Rays are Useful



- Radiographic erosions and Larsen grade 1 (in a population without erosions at baseline) increased the probability of developing RA from UPIA (1-3)
- When comparing mild versus progressive disease after 1 year follow-up, Sharp van der Heijde scores at baseline were significantly higher in the progressive disease group (4)

Baseline X-rays are helpful

- Radiographic erosions and Larsen grade 1 (in a population without erosions at baseline) increased the probability of developing RA from UPIA (1-3)
- When comparing mild *versus* progressive disease after 1 year follow-up, Sharp van der Heijde scores at baseline were significantly higher in the progressive disease group (4)

Baseline X-rays changes which were found to be useful include: erosions and composite scores which combine erosions and joint space narrowing. Other X-ray abnormalities, however, may also be useful, as they may reveal other diagnostic clues.

Refs:

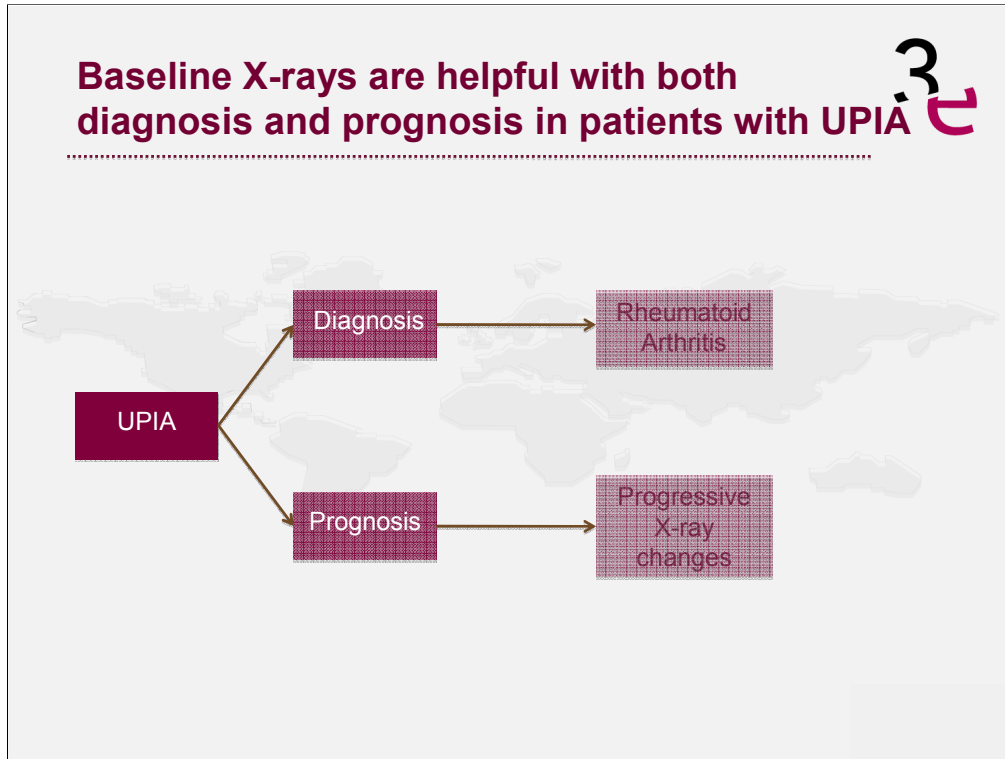
1) van Gaalen FA, Linn-Rasker SP, van Venrooij WJ, de Jong BA, Breedveld FC, Verweij CL, et al. Autoantibodies to cyclic citrullinated peptides predict progression to rheumatoid arthritis in patients with undifferentiated arthritis: a prospective cohort study. *Arthritis Rheum.* 2004 Mar; 50(3):709-715

2) van Aken J, van Dongen H, le Cessie S, Allaart CF, Breedveld FC, Huizinga TW. Comparison of long term outcome of patients with rheumatoid arthritis presenting with undifferentiated arthritis or with rheumatoid arthritis: an observational cohort study. *Ann Rheum Dis.* 2006 Jan; 65(1):20-25.

3) Duer A, Ostergaard M, Horslev-Petersen K, Vallo J. Magnetic resonance imaging and bone scintigraphy in the differential diagnosis of unclassified arthritis. *Ann Rheum Dis.* 2008 Jan; 67(1):48-51.

4) Jansen LM, van Schaardenburg D, van der Horst-Bruinsma IE, Dijkmans BA. One year outcome of undifferentiated polyarthritis. *Ann Rheum Dis.* 2002 Aug; 61(8):700-703.

Baseline X-rays are helpful with both diagnosis and prognosis in patients with UPIA



Baseline x-rays are helpful with both diagnosis and prognosis in patients with UPIA

Baseline X-ray changes can help predict the likelihood of a patient developing RA or progressive X-ray changes.

Which X-rays and How often?



- Radiographs of affected joints should be performed at baseline
- Experts recognized the clinical value of hands and feet radiographs in UPIA
- Radiographs should be repeated within one year (in case disease persists)

Which X-Rays and How often?

- Radiographs of affected joints should be performed at baseline
- Experts recognized the clinical value of hands and feet radiographs in UPIA, and based on clinical experience also recommended that radiographs of affected joints should be performed at baseline
- Furthermore, experts advised that radiographs should be repeated within one year (in case disease persists)

To take under consideration...



Some experts suggested that pelvic/sacroiliac joints radiographs should also be considered, particularly in RF and/or ACPA negative patients, or if spondyloarthritis is suspected.

Although not voted to be included in the recommendation, some of the experts expressed their opinion that pelvic/sacroiliac joints radiographs should also be considered, particularly in RF and/or ACPA negative patients or if spondyloarthritis is suspected.

Summary



- **Radiographs of affected joints, hands, wrists, and feet and possibly pelvic/sacroiliac joints are helpful in the evaluation of patients with UPIA**
- **Radiographs may be helpful with both diagnosis and prognosis**
- **Baseline X-ray changes may identify patients at a higher risk of progression to rheumatoid arthritis and/or progression of radiographic changes**

Summary

- Radiographs of affected joints, hands, wrists, and feet and possibly pelvic/sacroiliac joints are helpful in the evaluation of patients with UPIA
- Radiographs may be helpful with both diagnosis and prognosis
- Baseline X-ray changes may identify patients at a higher risk of progression to rheumatoid arthritis and/or progression of radiographic changes

References

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