

**Appendix 3** (as supplied by the authors): Summary of included studies (part 1)

Source	Setting	No. of participants	Mean age (range)	% female	Study design	Study type
Parker et al., 1986 <sup>1</sup>	Acute arthritis clinic in Glasgow, UK	150	45 (13–85)	45	Prospective cohort	Differential diagnosis
Freed et al., 1980 <sup>2</sup>	ED in an academic hospital in LA, USA	59	41 (16–75)	37	Prospective cohort	Approach to diagnosis
Shmerling et al., 1990 <sup>3</sup>	Consecutive SF samples from swollen, painful joints in Boston, USA	100	NA	NA	Prospective cohort	Evaluation of diagnostic tests in diagnosing inflammatory v. noninflammatory arthritis
Jeng et al., 1997 <sup>4</sup>	ED in an academic-hospital in Taiwan	75	NA	NA	Prospective cohort	Evaluation of the role of SF TNF- $\alpha$ , IL-1 $\beta$ and IL-6 levels in diagnosing septic arthritis
Zhang et al., 2006 <sup>5</sup>	NA	181 studies	NA	NA	Systematic review (of RCTs, controlled trials, observational studies, economic evaluations and meta-analysis,) consensus document	Development of evidence-based recommendations for gout
Margaretten et al., 2007 <sup>6</sup>	NA	14 studies (n = 6242)	NA	NA	Systematic review (of cohort studies, case–control studies and case–series)	Evaluation of the clinical examine for nongonococcal septic arthritis

**Appendix 3: Summary of included studies (part 2)**

Source	Recruitment method and sampling/data sources	Diagnostic test or criteria	Reference test	Blinding	Attrition of participants	Statistical method
Parker et al., 1986 <sup>1</sup>	Local general practitioners/hospital services contacted by letter and phone, requesting referral of acute arthropathy over a 1-yr period; unclear if consecutive	Broad screen of investigations (lab and radiology), aspiration of symptomatic joints	NA	NA	21 excluded because not acute arthritis	Percentages
Freed et al., 1980 <sup>2</sup>	All patients presenting to the ED with monoarthritis (excluding trauma) over a 10 mo period	Defined criteria that incorporated appropriate clinical, radiological, laboratory and synovial fluid results	NA	NA	10% lost to follow-up	Proportions; percentages
Shmerling et al., 1990 <sup>3</sup>	Consecutive synovial fluid specimens received by haematology or chemistry lab over 1 yr	Synovial fluid WBC count, % PMNs in SF, SF glucose level, SF protein, SF LDH	Standard criteria without regard to results of synovial fluid WBC count, differential, glucose, protein or LDH	Not clear	31 excluded from SF test results (5 other diagnosis, 26 no diagnosis), additionally missing SF data from: 22/69 LDH, 1/69 protein	Proportions; Wilcoxon signed rank, Spearman correlation, ROC, sensitivity, specificity
Jeng et al., 1997 <sup>4</sup>	Patients presenting to ED with acute arthritis, possibly septic, over a 2 yr period, unclear if consecutive	Serum and synovial fluid TNF- $\alpha$ levels, SF IL-1 $\beta$ and IL-6 levels, serum and SF WBC count, ESR	Diagnosis according to the ARA criteria	Not clear	Complete	$\chi^2$ test, Kruskal-Wallis
Zhang et al., 2006 <sup>5</sup>	MEDLINE, EMBASE, CINAHL, Science Citation Index and Cochrane	NA	NA	NA	NA	Method of pooling unclear, 95% CI presented
Margaretten et al., 2007 <sup>6</sup>	PubMed and EMBASE	History, physical examination, blood and/or SF results	+ culture or Gram stain, + blood culture, pus in aspirate, and/or antibiotic response	NA	NA	Random effects model with 95% CI

ARA = American Rheumatology Association, CI = confidence interval, CINAHL = Cumulative Index to Nursing and Allied Health Literature, ED = emergency department, ESR = erythrocyte sedimentation rate, LDH = lactate dehydrogenase, NA = not applicable, PMN = polymorphonuclear cells, RCT = randomized control trial, ROC = Receiver Operator Characteristic, SF = serum ferritin, TNF = tumour necrosis factor, WBC = white blood cell.

## References

1. Parker JD, Capell HA. An acute arthritis clinic — one year's experience. *Br J Rheumatol* 1986;25:293-5.
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4. Jeng GW, Wang CR, Liu ST, et al. Measurement of synovial tumor necrosis factor-alpha in diagnosing emergency patients with bacterial arthritis. *Am J Emerg Med* 1997;15:626-9.
5. Zhang W, Doherty M, Pascual E, et al. EULAR evidence based recommendations for gout. Part I: Diagnosis. Report of a task force of the Standing Committee for International Clinical Studies Including Therapeutics (ESCSIT). *Ann Rheum Dis* 2006;65:1301-11.
6. Margaretten ME, Kohlwes J, Moore D, et al. Does this adult patient have septic arthritis? *JAMA* 2007;297:1478-88.