

13 March 2024

Joint Infection Services

Questions for Clinical Team(s):

1. In 2022/2023 (or for the last recorded year with data available), in your Trust / Health Board, how many of the following did you record?

- a) Paediatric patients with suspected septic arthritis in native joints.

See Belfast Health and Social Care Trust's response in table below.

- b) Paediatric patients with suspected prosthetic joint infection (PJI).

There were no Paediatric patients with suspected prosthetic joint infection.

- c) Adult patients with suspected septic arthritis in native joints.

See table below.

- d) Adult patients with suspected prosthetic joint infection (PJI).

See table below.

*Patient Type	*Diagnosis Type	Total
☐ Paediatric Patient	Septic Arthritis in Native Joints	10
☐ Adult Patient	Septic Arthritis in Native Joints	33
	Prosthetic Joint Infection	72
Grand Total		114

2. Does your Trust / Health Board follow or have any locally developed / adapted guidelines for the diagnosis and treatment of septic arthritis in native joints and prosthetic joint infections in both adults and paediatric patients?

- a) If yes, please state which guidelines have been adapted and please provide a copy of your local guidelines.

Adult Rheumatology

We have no locally adapted guidelines in Adult Rheumatology.

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- 3. When investigating suspected septic arthritis in native joints in both paediatric and adult patients, is a synovial fluid sample collected before or after antibiotics are administered and commenced?**

Adult ED

Generally beforehand but may proceed to empirical intravenous treatment if the patient is unwell with severe sepsis.

Adult Rheumatology

Before, where possible, in Adult Rheumatology.

- a) Is joint aspirate collected in ED / triage, Assessment unit, inpatient ward, or theatre?**

Adult ED

Yes in ED but not at triage.

Adult Rheumatology

ED / Assessment Unit or Ward for Adult Rheumatology.

- b) Who typically performs the procedure and collects the sample? Please specify job role.**

Adult ED

Within our Adult EDs this would be undertaken mainly by Emergency or Rheumatology Physician.

Adult Rheumatology

Doctor for Adult Rheumatology.

- c) Does the above differ for suspected prosthetic joint infections? If yes, please clarify how this differs?**

Adult Orthopaedics

Within Adult Orthopaedics, patients with suspected periprosthetic joint infections generally have a sample before proceeding to empirical intravenous treatment.

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The management of periprosthetic joint infection is undertaken in discussion with a Consultant Orthopaedic Surgeon. This may involve samples being taken by ED, Radiology or the Orthopaedic Team.

4. What clinician would typically manage paediatric patients with suspected septic arthritis in native joints? Please select one or multiple.

- I. Paediatric Consultant**
- II. Orthopaedic Consultant**
- III. Infectious Diseases Consultant**
- IV. Other (please specify)**

Yes Lead Consultant is Paediatric Trauma & Orthopaedic. All patients with confirmed infection are seen by Infectious Diseases Consultant who guide antibiotic choice, length and further testing if needed. They will also review at clinic if needed.

5. Are patients discharged before culture results from synovial fluid aspirate are received? If yes, what requirements need to be met before patients are discharged?

Adult ED

Yes, this may occur if the Physician is confident that the patients does not require hospitalisation.

Adult Rheumatology

No for Adult Rheumatology.

Questions for Lab / Diagnostic Team(s):

6. For adult and paediatric patients with suspected septic arthritis of native joints, what are the mean turnaround times (in hours, or if more appropriate, working days) for results on the following tests from receipt of specimen? Please provide an answer for each result.

- a) Gram Stain** 2 - 4 hours
- b) Culture** 7 - 8 days for final culture results, as these are subject to prolonged incubation, including enrichment. Any positive cultures during that time will be interim reported.

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- c) Blood culture** 5 - 6 days for final culture results, any positive cultures during that time will be interim reported as follows: Blood culture positive gram stain results reported within 1 - 2 hours 24/7. Initial culture result and identification 1 day after that, antibiotic sensitivities 1 - 2 days after.
- d) White blood cell count** Peripheral white blood cell counts as part of a full blood count panel are typically turned around within 4 hours. White cell counts within a joint fluid sample will be the same with the gram stain (they're reported together) 2 - 4 hours.

7. Does your Trust / Health Board conduct PCR testing of bacteria from synovial fluid of patients who have suspected septic arthritis of native joints?

No

If yes:

- a) Is this testing conducted on site?**
- b) At what point is testing requested – when the culture is negative or on request?**
- c) How long is the average turnaround time for results from receipt of specimen?**
- d) What organisms are routinely tested for?**

Not applicable.

8. Does your Trust / Health Board conduct 16S PCR testing of bacteria from synovial fluid of patients who have suspected septic arthritis of native joints?

Yes.

If yes:

- a) Is this testing conducted on site?**

No - sent away

- b) At what point is testing requested – when the culture is negative or on request?**

Will send away if requested and we do not culture anything.

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c) How long is the average turnaround time for results from receipt of specimen?

This can vary from 1 week to 4 weeks - so estimate 2 weeks mean average turnaround time (TAT) from the date the sample is sent off to reference lab. The question is from receipt of sample, so need to add on another week for local in-house culture to be negative before sending away. So from our receipt of the sample 16S is 3 weeks average TAT.

d) What organisms are routinely tested for?

16S is an open platform test that amplifies any 16S ribosomal bacterial DNA and sequences amplicons to give species identification.

Joint Question – Input from Both Clinician and Lab / Diagnostic Team:

9. For joint infections, in your Trust/Health Board, please confirm the following:

a) Which roles or stakeholders are involved in the design of diagnostic pathways and introducing change/pathway improvement?

Any change originating within lab practice that could impact clinical decision making would be discussed with clinical teams overseeing joint infection - Orthopaedics and Rheumatology for instance. Any requests for changes originating from those specialist clinical teams would be considered within the laboratory scientific and medical teams.

b) Which team(s) hold the budget for investing and implementing in new technologies across the pathway, e.g. rapid diagnostic testing?

There is no specific budget for investing and implanting new technologies across the pathway. Any new tests would be subject to normal commissioning and business planning processes. In such circumstances, both laboratory and clinical teams would be involved in discussions and planning.