Neurophysiology Scientist interview questions

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What to expect

Neurophysiology Scientist interviews test both hands-on technique and clinical judgement, because the role sits between the patient and the neurologist. Expect to talk through how you apply electrodes, how you spot artefact and abnormality in real time, and how you keep patients settled during tests that can be uncomfortable or lengthy.

- **Technical walk-through:** Step-by-step questions about setting up and running EEG, nerve conduction studies, EMG or evoked potentials, including electrode placement, impedance checks and montage selection.
- **Real-time scenario:** Questions about a trace that could be seizure activity, artefact or a technical fault, testing how you judge a situation and when you escalate.
- **Patient-facing and communication:** How you explain a test, manage an anxious or confused patient and adapt your approach for children, older patients or people needing an interpreter.
- **Safety and infection control:** Skin preparation, single-use versus reusable electrodes, cleaning and disinfection, and working safely in ICU, theatre and ward environments.
- **Behavioural and teamwork:** Examples of working with neurologists, nursing staff and surgical teams, handling a busy list and supporting students or new scientists.
- **Roster and professional fit:** Questions about on-call, weekend and after-hours work, continuing education and how you keep your skills current.

Most departments start with a short phone screen with the chief scientist, then bring candidates in for a panel interview with a neurologist, a senior scientist and often a people and culture representative. The panel usually moves from your background and qualifications into technical walk-throughs, then scenario questions, then a practical component such as applying electrodes on a colleague, demonstrating equipment or talking through a sample trace. There is normally time at the end for your questions, and some sites follow up with a tour of the epilepsy monitoring unit or theatre suite.

1. Walk me through how you would set up and record a routine EEG, from patient preparation through to reporting.

Why they ask

The panel wants to hear that your technique is systematic and safe, and that you understand why each step matters rather than just following a checklist.

How to structure your answer

Use a step-by-step walk-through: identity and consent, history and safety screen, scalp measurement and electrode placement, impedance and montage checks, activation procedures, real-time monitoring, then documentation and handover. Close by naming the standard you work to, such as the 10-20 system.

Example answer

“I start by confirming the patient's identity and the request form, then explain what the test involves and get their consent. I ask about medications, sleep, recent seizures, scalp conditions and any allergies, and check whether they have had a previous EEG so I can compare montages. I measure the head and mark the positions using the 10-20 system, apply the electrodes with paste or collodion depending on the study, and check impedances before I begin recording. Once the trace is running I watch it continuously, run hyperventilation and photic stimulation where they are appropriate, and note any drowsiness, movement or electrode issues as they happen. If I see something that looks like a discharge I note the time and keep the patient still so the neurologist can review a clean section. At

the end I remove the electrodes, clean the patient up, document the study in Epic and hand the recording through for reporting."

2. You are monitoring a long-term EEG and see rhythmic activity that could be seizure activity or could be artefact. What do you do?

Why they ask

This is the core judgement test in the role: whether you can tell real abnormality from a technical problem and act appropriately without overreacting or missing something.

How to structure your answer

Use a judgement-under-pressure structure: describe what you observe, what you rule out first, what you check at the bedside, when you escalate and what you document. Show that you never leave an ambiguous trace unaddressed.

Example answer

"First I look at the whole picture rather than the one channel. I check whether the rhythm has a plausible field and distribution, whether it changes with the patient's behaviour and whether it appears on channels that share an electrode. Then I look at the patient: are they moving, chewing, sweating, or is a lead loose or a cable being tugged? I check impedances and reseat or replace the electrode if needed. If the activity persists after those checks and has a pattern consistent with a seizure, I stay with the patient, keep them safe, note the start time, and contact the neurologist or the on-call registrar straight away. Whatever the outcome, I document what I saw, what I checked and who I notified, so the reporting neurologist has the full context."

3. Tell me about a time you had to keep a patient calm or comfortable during a difficult or lengthy procedure.

Why they ask

Neurodiagnostic tests can be uncomfortable, and the quality of the recording depends on the patient staying still and trusting you.

How to structure your answer

Use STAR: the situation, what you were asked to do, the action you took with the patient and the result in terms of the study and the patient's experience.

Example answer

"I was asked to run a nerve conduction study on a patient with significant shoulder and arm pain who had already had a difficult experience with a previous test elsewhere. The situation was that he was tense and pulling his arm away every time I applied stimulation, which was making the traces unusable. I stopped, put the equipment down and explained exactly what each stimulation would feel like, how long it would last and that he could tell me to pause at any point. I let him choose the arm position and used a warmed room and a support pillow so he did not have to hold the position himself. I worked in short blocks with breaks and talked him through each step as I went. We got clean, reportable traces without repeating the study, and he told the neurologist afterwards that it was far easier than he had expected."

4. How do you manage infection control and skin preparation when applying electrodes, particularly in ICU or with a confused patient?

Why they ask

The panel needs to know you work to hospital standards and can adapt safe practice to patients who cannot cooperate or who have wounds, lines or fragile skin.

How to structure your answer

Use a standards-led structure: what the standard requires, how you risk assess the patient, the steps you take, and how you confirm you have met the requirement. Name practical details rather than

generalities.

Example answer

“I work to the hospital's infection control policy and the NSQHS Standards, with hand hygiene before and after patient contact and gloves where skin preparation or body fluids are involved. For skin preparation I assess the scalp or skin first: if it is fragile, broken or has a rash, I avoid abrasion and use a gentler method, and I check for lice or dermatitis before I start. I use single-use electrodes where the patient is in ICU or has an infection risk, and I follow the manufacturer's instructions for cleaning reusable leads. For a confused patient I keep the trolley tidy, remove sharps and any items they might grab, and work with nursing staff so someone can help me position the patient. At the end I clean reusable equipment, dispose of waste correctly, document anything unusual on the skin and report it to the nurse in charge.”

5. How would you explain a nerve conduction study to a patient who is anxious and in pain?

Why they ask

Most of the information a patient receives about the test comes from you, not the neurologist, and the panel is listening for plain language and empathy.

How to structure your answer

Use a patient-centred explanation structure: check what they already know, explain the test and what it will feel like, give them control, then confirm understanding. Mention how you would adapt for a child, someone with cognitive impairment or a patient who needs an interpreter.

Example answer

“I would sit down at eye level first and ask what they have been told about the test and what worries them most. Then I explain in plain language that we are measuring how well the nerves carry signals, that it involves small electrical pulses and sticky electrodes, and that some parts feel like a quick tap or a tingle. I tell them it is uncomfortable rather than painful for most people, that it does not damage the nerves, and that they can ask me to stop at any time. I give them control over the pace and let them choose a comfortable position. If the patient is a child I explain it through the parent and use simple words and a countdown, and if someone needs an interpreter I book one rather than relying on a family member. I finish by asking them to tell me in their own words what is going to happen, so I know they have understood.”

6. Describe how you would support a neurologist during intraoperative monitoring.

Why they ask

Theatre work is a big part of some neurophysiology roles and it demands preparation, quick communication and comfort with a setting where you cannot ask the patient questions.

How to structure your answer

Use a preparation and communication structure: pre-operative briefing and baseline, agreed alert criteria, real-time monitoring and immediate verbal escalation, then post-procedure documentation.

Example answer

“Before the case I would read the surgical plan and speak with the neurologist and the surgical team about which modalities we are running, what the baseline should look like, what changes would trigger an alert and how we will communicate during the case, since talking across the drapes is not always possible. I set up the electrodes and recording before the patient is positioned, get a stable baseline and save it, and check that the anaesthetic team knows which agents can affect the signals. During the procedure I watch the traces continuously, keep the surgical field in view where I can, and if evoked potentials drop or disappear I repeat the stimulation to rule out a technical cause, then tell the neurologist immediately with the time and the details. After the case I document the baseline, any changes, the times and who I notified, and I clean and store the equipment.”