

Respiratory and Sleep Scientist interview questions

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What to expect

Respiratory and Sleep Scientist interviews test both your technical grip on diagnostic testing and your judgement when a patient, a trace, or a night shift goes sideways. Expect a mix of equipment walk-throughs, clinical scenarios and straightforward conversation about how you work with patients and physicians.

- **Technical and equipment:** Walk-throughs of spirometry, lung volume testing, polysomnography set-up, calibration and fault-finding, often using real or simulated traces.
- **Clinical judgement and safety:** Scenarios about deteriorating patients overnight, infection control, and when to escalate to the on-call physician.
- **Patient-facing:** How you explain procedures, coach a poor effort, and manage anxiety or claustrophobia.
- **Behavioural:** Past examples of equipment failures, difficult nights, mistakes and how you handled them.
- **Workflow and reporting:** Prioritising a testing list, scoring turnaround, and writing reports that physicians can use quickly.

A short phone screen with the laboratory manager is common, followed by a panel interview with a senior scientist and a respiratory or sleep physician. The panel usually mixes technical questions with scenario work, sometimes with a lab tour or a practical station where you demonstrate sensor application, calibration or scoring. Some employers ask you to review a de-identified trace and explain what you would report.

1. Walk me through how you would perform a set of spirometry tests on an adult who has never done one before.

Why they ask

This is the bread-and-butter task of the role, and the panel wants to hear technique, coaching and quality standards, not just the name of the machine.

How to structure your answer

A walk-through works best here: preparation and screening, patient explanation, demonstration, the manoeuvres themselves, acceptability and repeatability checks, then documentation and referral back to the physician. Flag where you would stop and repeat a test rather than accept a poor effort.

Example answer

"First I check the referral and the patient's history for anything that affects testing, then confirm they have held their inhalers as instructed. I explain what the test feels like, demonstrate the blow on the mouthpiece myself, and get them seated with a nose clip. I aim for a full inhalation, a hard blast out and a sustained effort until the trace flattens out. I watch for leaks, coughs or early stops, and I keep coaching between attempts, because most poor results are technique rather than disease. I usually aim for three acceptable efforts with two repeatable values, and if I cannot get that I document why rather than reporting a misleading number. Then I review the trace, check the predicted values against age, height and ethnicity, and pass the report to the physician with any caveats noted."

2. Tell me about a time an overnight sleep study went wrong mid-night. What did you do?

Why they ask

Overnight work is where the role gets hard, and the panel wants evidence you can troubleshoot calmly at 2am without waking a patient unnecessarily.

How to structure your answer

Use STAR: the situation and what was at stake, the task you had to solve, the action you took step by step, and the result for the patient and the study.

Example answer

"One night a patient's nasal pressure signal dropped out and the oximetry trace became erratic. I could see the study was at risk of being unusable by morning. I checked the cannula first, which had come partly loose, and repositioned it, then re-taped and confirmed the signal on screen. I also checked the belt connections while I was there so I was not returning in an hour. The patient barely woke, the trace came back clean, and the physician had a complete study to report from. I logged the fault at handover so the same cannula placement issue could be watched on future nights."

3. You are the only scientist on overnight and two patients show concerning desaturations at the same time. What do you do?

Why they ask

This probes triage, escalation and scope of practice. The panel wants to see that you know when to escalate and how to prioritise when you cannot be in two rooms at once.

How to structure your answer

Talk through your judgement under pressure: assess the traces and the patients, decide which needs you first, escalate to the on-call physician, document, and hand over.

Example answer

"I would first look at both traces to work out which is more urgent, including oxygen saturation levels, heart rate, and whether the patient looks distressed or has a pattern I have seen before. I would go to the more unstable patient first with a portable oximeter, check their airway, position and sensor placement, and apply oxygen if the laboratory protocol allows and the physician has authorised it. In parallel I would call the on-call physician and describe the traces and the patient's condition clearly, then follow their instructions. I would document times, observations and actions, and hand over the details at the end of shift. If the situation is outside my scope, I would escalate rather than improvise."

4. How would you manage a patient who is anxious or claustrophobic about the nasal cannula and effort belts?

Why they ask

Overnight studies fail when patients are uncomfortable, and the panel wants someone who can keep the study usable without being pushy.

How to structure your answer

This is a patient-facing scenario, so structure it around acknowledge, explain, adapt, and escalate if it still fails.

Example answer

"I would start by acknowledging that it feels strange and that most people find it takes a bit of getting used to. I would explain what each sensor does and why it matters, and let them handle the cannula and belts before I put anything on. I would show them there is slack in the leads and that they can still roll over, and I would offer to loosen or reposition the belts. If they were still distressed, I would try a different interface or a lighter cannula, and let them settle while I set up the other equipment. If they could not tolerate it at all, I would note that clearly, document what was attempted, and let the physician decide whether a repeat study or a different test is appropriate."

5. What is your process for calibrating and troubleshooting a spirometer or polysomnograph that is giving unusual traces?

Why they ask

Equipment fault-finding is a daily reality of the role, and the panel is checking you do not just swap machines and hope.

How to structure your answer

A stepwise technical walk-through: verify calibration and quality control, check consumables and connections, inspect the patient side, then review the trace and escalate or document.

Example answer

"For a spirometer I would start with the calibration check, confirm the syringe volume and that the calibration log is current, then check the mouthpiece, filter and tubing for leaks or blockages. If the traces still look off, I would test with a known reference or ask a colleague to blow, which tells me whether the issue is the equipment or the technique. For a polysomnograph I would check impedance values, electrode and sensor placement, amplifier connections and the reference channels, then look at the raw signal to see whether the artefact is physiological or electrical. If I could not resolve it, I would swap out the suspect component, tag the faulty equipment for repair, and document the fault in the maintenance log. I would also check whether other patients on the same system are affected."

6. Describe how you would prepare a report for a respiratory physician who has a few minutes to review it.

Why they ask

Reporting is where the scientist's work becomes clinically useful, and the panel wants to see you can prioritise findings without hiding important detail.

How to structure your answer

Structure this as a reporting and communication question: what goes at the top, what supports it, what caveats you include, and how you flag anything urgent.

Example answer

"I would put the key finding and the test quality first, so the physician knows within a few seconds whether the study is reliable and what the headline result is. I would include the values that matter most, such as spirometry indices, lung volumes and diffusion, or for a sleep study the apnoea-hypopnoea index, oxygen desaturation data and sleep staging summary. I would note anything that limits interpretation, like a poor effort, a partial study or artefacts, because that changes how the report should be read. If there was something urgent, I would flag it directly rather than bury it in a table, and I would follow the laboratory's escalation process. I would also keep the language consistent with the department's reporting standards so it is easy for the physician to compare across studies."