

**You're a what?**

# Polysomnographic technologist

by Kathleen Green

If you're sleepless in Savannah, Debbie Barreto can help figure out why. "We make our living by watching people sleep," says Debbie, a polysomnographic technologist in Savannah, Georgia. Polysomnographic technologists monitor the activity of adults and children in sleep laboratories. They observe patients, collect data, and take notes during a sleep study. Then, they summarize the information for a sleep physician, who makes a diagnosis and recommends treatment.

The results of a polysomnographic technologist's effort are likely to be welcome news. Usually, people seek evaluation in a sleep lab because they have trouble going to sleep, staying asleep after they go to bed, or staying alert when they are awake.

Sleep studies identify which, if any, of about 100 sleep disorders a person has. "It's one thing to know you have sleep apnea," says Debbie, referring to a common disorder. "It's another thing to see hard numbers that reveal an overworked heart, stressed repeatedly by low oxygen levels caused by repetitive collapse of your airway during sleep." Those details can lead to the right treatment and, ultimately, to better sleep.

Before patients make an appointment for a sleep study, they complete a questionnaire about their sleep habits. This information helps the polysomnographic technologist and sleep physician determine what kind of study to conduct.

When a patient arrives at the sleep lab, a technologist such as Debbie gathers routine medical information and explains the testing process. The patient is then taken to the room designated for his or her sleep study. At a minimum, this room contains a bed; video surveillance equipment, which allows the technologist to observe the

sleeping patient; and electronic monitoring equipment, which collects data on the patient's brain waves, heart rate, muscle activity, and other body functions during sleep.

The patient prepares for bed while Debbie calibrates the equipment. Then, using a special adhesive, Debbie applies sensors to the patient's scalp, face, chest, abdomen, and legs. These sensors, which connect to the monitoring equipment in the room, have ample wiring to permit normal movement during sleep.

Debbie's monitoring tasks begin as soon as the patient gets into bed. Throughout the study, she tracks as many as 24 channels of electronic data from a separate observation room; at the same time, she observes the patient for movements, such as changing positions, and other sleep occurrences.

Debbie also takes meticulous notes to document corresponding routine occurrences, such as stages of sleep. "The primary goal in a sleep study is to collect accurate data," says Debbie. "But the technologist's input of what happens during sleep is very important."

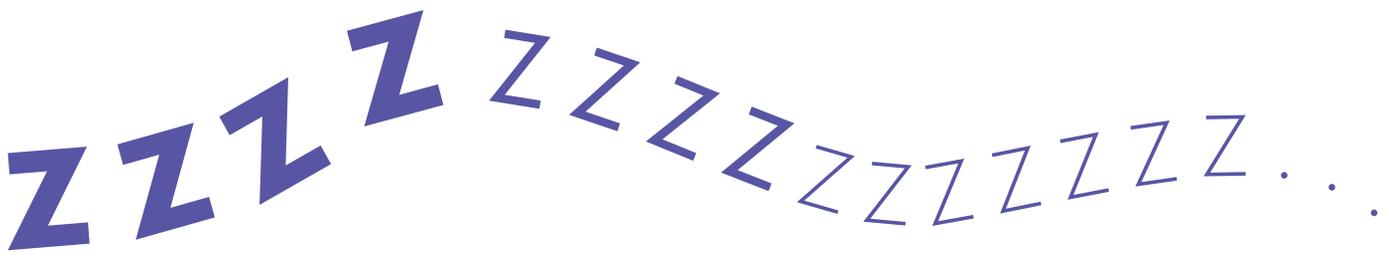
Polysomnographic technologists are a patient's primary contact throughout a study. Except on rare occasions when a patient may need emergency intervention, however, the technologist remains in the observation room. Ideally, a patient's sleep during the study should mimic his or her typical slumber as closely as possible.

When a patient awakens at the end of the study, Debbie removes the patient's sensors. She answers any questions that the patient may have—apart from conclusions of the study, which have not yet been determined.

After the patient leaves, the analysis begins. The analysis involves reviewing all records from the study and scoring the results. Scoring is a method of tallying points

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that are assigned to different sleep occurrences, such as snoring, to look for patterns, similarities, or anomalies. It's no small undertaking: A single study of one patient can yield more than 1,000 pages of records, with each page representing 30 seconds of sleep.

After a study is scored, the technologist sends the report to a sleep physician for interpretation, diagnosis, and suggested treatment. Technologists often assist patients in understanding and adjusting to the recommended treatment.

The U.S. Bureau of Labor Statistics does not collect employment or earnings data on polysomnographic technologists. However, the Board of Registered Polysomnographic Technologists (BRPT) estimates that there are more than 7,000 registered technologists internationally. And the Association of Polysomnographic Technologists (APT), in a 2003 survey, found that polysomnographic technologists had biweekly earnings averaging \$1,719, with registered technologists earning slightly more than their noncredentialed counterparts.

BRPT registration, which requires technologists to pass an exam and meet other conditions, is often preferred by sleep-lab employers. But applicants for this credential must first become polysomnographic technologists. They do this by completing an associate-degree program with an emphasis in polysomnography, completing a polysomnography program accredited by the APT, or gaining equivalent proficiency in another healthcare-related occupation and then cross-training in polysomnography.

Polysomnographic technologist training requires classes in computer science; physical and life sciences, such as chemistry, anatomy, and physiology; and mathematics, including algebra, trigonometry, and statistics.

Debbie, who has taught courses for BRPT test preparation, says math is one area in which many students are lacking. "Most of the people who are sitting for the exam a second time are taking it again because they failed basic math," she says. "You've got to be able to know when the computer's wrong."

Debbie also recommends that polysomnographic technologists have training in a variety of other subjects. In fact, she says, "I can't think of a single class I took that I don't use." Courses such as speech and interpersonal communication are good preparation for interacting with the public.

Polysomnographic technologists must enjoy working with people. They should also be prepared to work at night. Sometimes, such as when a shorter sleep study is required or when a patient's night job requires daytime sleep, studies are done during the day. But because most people sleep at night, most sleep studies take place at night.

The duties of night technologists differ from those of others, like Debbie, who work during the day. "As with most healthcare professions," she says, "part of what we do is dictated by when we work." Debbie spends more time on sleep-study analysis and scoring, for example, than on observing patients, collecting data, and taking notes.

What technologists do is also affected by how skilled they are. Debbie's 20-plus years of polysomnography experience qualify her to serve as a team leader, a role that involves additional administrative tasks in overseeing the 4-bed sleep lab in which she works. Some technologists apply their knowledge to related opportunities in marketing, advocacy, and product sales. And some, like Debbie, are also involved in research, patient and professional education, and community outreach projects.

But at the end of the day, it's the study of sleep that most interests Debbie. "Every time you do a sleep study, you see something different," she says. "Looking at the data, finding those gems of differentiation to share with the doctor—that's rewarding." ∞∞

