

# ORTHOTIC & PROSTHETIC PROGRAMS

## SPOKANE FALLS COMMUNITY COLLEGE

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## DECREASING HEALTH RISKS IN THE LAB



Like many sons of prosthetists, I was in my father's lab at a young age, and as a congenital amputee, I was probably there more frequently than most might be. One of my first tasks was learning to make "gunk." Mixing a resin with sawdust and then "gunking" a test socket to a wood block, and ideally doing so fast enough that you weren't standing over the resin when it finally kicked off and started to smoke. Ventilation was limited and the best way to avoid the bad smell was to walk into another room with no concerns that the smoke might be bad for you. If you happened to get any of the resin or gunk on you, it was simply cleaned off with acetone. From there I learned to sand foam for orthotic pads, break out casts of plaster, mix and pour plaster. At this point, I was laminating sockets with carbon, or Kevlar, or whatever new and exciting materials we happened to be using in the lab. Here again, it was best to be done laminating before the resin started to smoke, spills were simply cleaned with acetone, and all of the sockets were ground and finished with the router or Sutton producing limited to poor dust collection.

Such was the lab in which I grew up and I suspect that most of us have either started in or maybe still operate in such a space. Our health or awareness of health risks seemed to be non-existent or maybe we simply didn't care.

Fast forward, a few years and we settled into using carbon in all of the sockets and even in the AFOs. To combat the annoyance of the itch while finishing carbon, we upgraded to a much better dust collector that attempted to keep the carbon dust from attaching to our skin. We would also suit-up in hazmat gear to reduce the risk of the itch. Yes, that's right! We were only worried about the itch, not the fact that carbon could get into our lungs, and once there, stay forever.

This was and in many cases is the norm in prosthetics and orthotics. I would like to tell you that we had some sort of epiphany or wake-up call to the potential hazards of the materials we were using, but that just would not be true. We found healthier alternatives more by accident than by design. After developing our Summit Lock, and the urethane attachment to be glued to the liner, we found a glue that turned out to be fast-setting, easy to use, and without a dreadful, lingering scent. Remarkably compared to other glues and resins in our lab, this glue was much safer and easier for us to use. No more dodging that smoking resin!

A few years down the road, we were working on adding more flexibility and toughness to the sockets and the AFOs we were laminating. While doing so, we discovered that we could use our basalt braid in place of carbon fiber. Low and behold, it was not only tougher and more flexible, but it did not itch when ground and was not an inhalant risk.

At this point.....a wakeup call! We decided to purposely look for healthier alternatives rather than just hoping to accidentally find materials that were safer to use. With this change in thinking, we began using safer resins for our laminations and strategically placed fans to help remove fumes from the lamination and gluing areas. With more research, we found a good hand-cleaner to use instead of acetone and we mandated the use of masks and eye protection. We made sure the dust collection devices were grabbing as much of the dust as possible and our Kleenaire Air Purification Systems were removing even more nasty air particles from our lab.

See **RISKS, 3**



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## TECH TIP: SEIZE YOUR OPPORTUNITIES!



The O & P Technology Program at SFCC provided a jump-start in my career. Without this program, I would not even have known that the O&P field exists. One day, I happened to see a brochure describing the program and scheduled a tour to see the lab. After the tour, I knew that this is what I was meant to do!

Through this program, I gained the essential knowledge and tools needed to be a successful technician in this field. You can certainly apply for a tech job without any formal education, but you will not know the primary skills required for fabricating and the practice that hired you will have to spend extra time and money teaching you while paying for all of your learning mistakes. Consider too, that some facilities will not hire people who have no experiences in O and P.

For my job, I and three other students participated in a video interview with the owner of Brownfield's P & O in Boise, Idaho. Following the video interview, two of us were selected for a working interview at the practice offices. After the interview with the owner, we were told that we would receive an answer in one week, but three days later, I learned that I got the job!

The practice where I interviewed only hires students trained in the basics of orthotics and prosthetics. If I had not completed the O & P Technology Program at SFCC, I would not have qualified to apply for the tech position. Because of my formal education, I was able to take the national exam to be fully certified as a CTPO within 6 months of my hire date. Without formal O&P education, a tech must work in the field for at least 4 years in order to be eligible to take the national exam. Even with four years of technical work, being fully prepared to respond to the questions on the ABC certification exam may still be a challenge. The six O & P Technology Programs in the U.S. teach the necessary education and training to help students pass the ABC certification exam. In addition, while in the program at SFCC, students can experiment with new methods and techniques allowing out-of-the box thinking and testing of materials. I've brought my experiences and those of former students and have actually been able to teach my fellow techs some tech tips.

I have been at Brownfield's for just over one year now and I am so thankful to be here. Because I bring a different dynamic to the lab, the owner is very happy to have me as the first female technician. My lead tech states that I am the best student that the practice has hired from the SFCC program. From when I first started, he has been very pleased with my work and it has only improved since then. After working as a technician for only a year, I received a substantial pay raise. I truly believe that if I had not completed the SFCC program, I would not be earning as much as I do after one year. The SFCC O & P Technology Program provided the knowledgebase to be successful in this field.....I cannot wait to see what my skills will be like in a couple of years!

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## RISKS

*Continued from 1*

When I look back, it baffles me at all the absurd things we were doing and using that were serious health risks. Now as I travel the country, I am continually amazed that many of these same behaviors and practices are still employed and used. You may not notice anything right away or even for years and can happily say, "Hey, this is the way we've always done it." A common theme that kept us from changing for way too many years. However, we all need to wake-up to the reality that many materials, behaviors, and practices are not good for our employees or for us. We each need to make an effort to do all that we can to reduce the number of negative factors in our labs while increasing safety and improved health-oriented behaviors.

While we have accomplished many improvements, we know there is much more to do. Every day we search for new materials, supplies, tools, and equipment to help create a safer work environment. This outlook must be continuous and ongoing. We should not have to wait for a real health issue or crisis to decide that we need a cleaner lab and a cleaner planet.

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# O&P STUDENTS HARD AT WORK

