

Dental Laboratory Improves Efficiency Today While Preparing for Tomorrow's Technology

Richard Peebles is not equipped with a crystal ball, but that hasn't stopped him from trying to see into the future of dental laboratory technology and prepare for whatever that future entails. As owner of Lakewood, Colorado-based Peebles Prosthetics, Inc., he recently completed a large laboratory renovation that greatly improves efficiency, promotes the best possible ergonomics for his technicians, makes cleaning and maintenance a dream, and provides a space for an active dental education program that can be used in house or shared with area dentists.

That's a lot to accomplish in a 19,500 square foot lab, but that's just the half of it. The flexible solution that Peebles selected was designed to be future-proof (to the extent that we can predict the future!). He can easily double his workforce within the existing footprint, and, perhaps top on []with an architect who enjoys solving space puzzles and challenges, and supported by Lista International, which supplied the workstations, Peebles created a lab that will support his business for years to come.

Full-Service Laboratory Outgrows Space

Peebles Prosthetics has been in business for nearly 30 years. Nestled at the foot of the Rockies, Peebles was founded as a removable lab in 1984, and expanded to a full-service laboratory in 2002. Product offerings range from IPS e.max® to high-noble PFMs, to implants and removable products.

Shelves store tools, equipment, and supplies



Fourteen years ago, Peebles developed laboratory space in a 4500 square foot, three-story building, with the top floor originally meant for leased space. Due to years of fast growth and expansion, Peebles needed all three floors.

“As we grew, procedures became more complicated, and travel paths just got more and more inefficient,” said Peebles. “Technicians had to cross each other's paths, creating bottlenecks.



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People had to wait to move to get to a needed piece of equipment, or to walk around someone.” Matters were complicated by the fact that the third floor was only accessible by an exposed outside staircase.

An extremely hands-on and detail oriented manager, Peebles was determined to find a new and larger space, where he could streamline the workflow to a linear configuration, creating enough space so people would not be trampling on each other’s toes. In addition, he wanted to provide adequate equipment space to reduce downtime of workers waiting to get access to needed tools.

At the same time that he was focused on solving the current space challenges and inefficiencies, Peebles also wanted the move to a new facility to accommodate future growth and change in the industry. “There are a lot of unknowns and we don’t know for sure where the industry is going,” says Peebles. “The last eight years have brought tremendous change in the field, with the onset of CAD/CAM, mill dental appliances, and even the use of 3-D printing technology. While we expect to remain a hands-on industry, we also have to be prepared for digitization.” In the back of his mind, Peebles was confident that the huge population of aging baby boomers with high dental aspirations would mean that investment in the future would ultimately be profitable.

Flexible, Modular Furniture Key to New Laboratory Space

After purchasing a 19,500 square foot building near his existing laboratory, Peebles set out to solve his problems and ensure his future. The key to his approach was the use of modular, adjustable, movable furniture, which would allow him to group stations by positions within particular departments, while facilitating changes that may arise due to future technology or industry trends.

Peebles reviewed a variety of benches, ultimately selecting the Arlink® Modular Workstation System, manufactured by Lista International Corporation, a Stanley Black and Decker company. After spotting them at a dental trade show a few years ago, he was attracted to Arlink’s ergonomic design, which would suit all his technicians, whatever their size. He also liked the fact that the Arlink system can be configured in a variety of heights and lengths to best suit the different processes done at the lab. The product had the design features he was looking for, including a clean front, no exposed handles for ease of cleaning, minimal dust-collecting ledges, and a good selection of colors.

But best of all, the modular workstations offered the flexibility he was looking for to accommodate changing or future needs. Both sides of the bench’s supporting columns can be used in combination with corner work surfaces to form L, T, U and X arrangements. Workstations can be arranged back-to-back for even greater flexibility. The Arlink system is also available on casters to create mobile workstations or case pan carts. This type of flexibility might

come in handy if the lab were ever to move to more of a linear step style production, something that Peebles considers might be necessary in the future.

Easy reconfiguration and tool-less repositioning of accessories was also important in Peebles' view. "The dental profession is going to change in the next ten years, and we want to be able to adjust these tools to respond to any needed changes."

Detailed Design Process Brings the Dream to a Reality

After making the decision to go with the Lista Arlink product, Peebles contacted Lista representative Jeff Skibba to discuss how the benches could meet their need for increased efficiency and future growth. Thus began a 14-month process in which Skibba worked with Peebles' architect Ann Quinn, of A W Dunn & Co, and with equipment distributor Zahn Dental Laboratory Division, to integrate the Arlink solution into the overall new building design. The group held numerous meetings to flesh out the layout options, and clarify the capabilities, functionalities, and products.

According to Quinn, who had designed Peebles' existing lab 14 years ago, the building design centered primarily on the efficient functioning of the lab. As she puts it, "Everything else had to fit in around the edges." She thoroughly enjoyed working with Peebles' to make sure the building was flexible enough to accommodate whatever technology the future holds. "Architecture is like a puzzle and my job is to take the client's needs and find a way to make them work efficiently in the space provided," says Quinn. "He wanted the space to be flexible to add equipment and people, so I had to ask myself what that might mean. Initially, it meant space, but it soon became clear that the flexibility had to extend to the casework."

Once Peebles made the decision to go with Lista's Arlink line, Quinn got a serious education from Skibba, who began by taking her to a Boulder lab that had used the product to get to know the details of the product's modularity. She also incorporated suggestions from the in-house custodian on features that would promote cleanliness in the lab.

After gathering all the information, she began preparing elevations of the laboratory, which Peebles used to refine his vision and select the best layout. A number of iterations were then sent to Lista, whose designers generated shop drawings to match. These were then reviewed to be sure they would work within the design. Through a months-long period of give and take, the plans solidified. According to Quinn, the eventual lab layout allowed Peebles to be able to double his work force over the next few years. "The Arlink line is a great product, which will last him quite a while. The lab is extremely organized, and there are places to put everything, which helps with cleanliness."

This was one of the most complex design processes Skibba has ever been involved in, but all the hours of brainpower resulted in a fantastic end product. He attributes the success of the project to

the close work with the architect to review the nitty-gritty of the product functionalities, and the time and energy taken to develop the plans.

Skibba noted that there is no cookie cutter approach in the dental laboratory market; customized planning is necessary to be able to integrate the benches and cabinets with utilities and plumbing and to accommodate the workflow unique to each lab. The work with Peebles involved a lot of back and forth to fit the products into the design, given the space constraints and their requirements. For example the project had to incorporate the sophisticated air handling and ventilation systems that were installed to ensure that the environment was as clean as possible.

The actual 3D layouts produced by Lista's CAD designers allowed Peebles to physically see what the lab would look like and envision what would happen if the door swings in different ways, or what the station would look like with a wider bank of drawers. This really helped Peebles in his decision process, because he could see clearly how the drawer size and shape affected the design. "Lista was good at giving us dimensions for tight areas and they provided what we needed so we could fit in proper sized casework."

Flexible configurations promote efficiency



Incorporating all these new ideas and changes that cropped up through the design process was relatively easy to accomplish because of the modularity of the Lista product. This modularity really helped in areas where

the lab was tight on space. Peebles explains that he needed cabinets that were specific to certain specialty positions that included a mix of drawers and doors. For example, the Lista line includes extremely strong roll out trays where he could set 50 pound boxes of stone, which saves time and space.

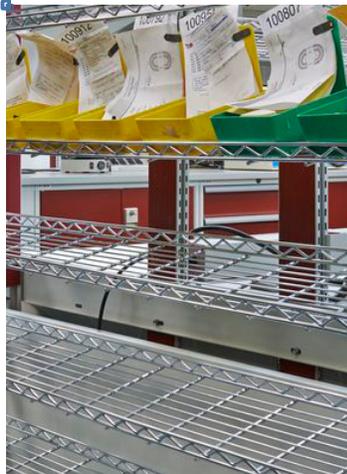
Peebles can reconfigure the height of the bench tops, reconfigure the accessories, and reposition benches with very little labor. The easy to handle product also allows them to reposition hoses, air lines, and drawers. They can also change the height and angle of the shelves and lights to meet the individual technician's needs.

Once they got going, Peebles really took advantage of the add-on accessories that made the laboratory so efficient. Options like high output, color corrected lighting, tilt-able shelving, easily accessible electrical outlets, and flat panel monitor arms.

Image 3 – Shelving options

The laboratory layout also increases efficiencies. For example, every bench now has suction, which allowed Peebles to provide a consistent workspace for all his technicians. They were able

Shelving options



to place a pressure pot (used for curing plastics) and an air chisel between benches, so technicians no longer have to leave the bench, reducing downtime. They were also able to add more pumice stations, so technicians don't have to wait for this important piece of equipment. Production was also increased by creative equipment and bench placement, like placing an oven on either side of the bench so two technicians can use the same area at the same time, or turning benches 90 degrees so a technician could shape and grind porcelain without causing contamination.

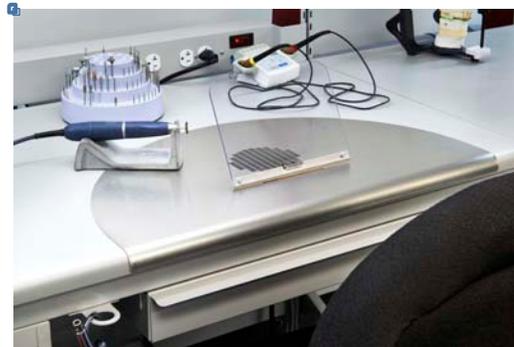
One final unique aspect of the new laboratory is the new technology and education area, a 735 square foot room that can comfortably seat 30 people. Peebles has already fielded many requests to use the room for educational seminars, which lets

Peebles' technicians stay current with dental technology and methods, including TMJ, oral surgery, and implants. They also use the room for their own in-house training on new products and techniques.

The new laboratory, which opened in December 2012, currently occupies about 12,000 square feet in the 19,500 square foot space, and Peebles can either lease the extra space or grow into it. He has been able to increase the number of technician workstations from 22 to 55; with the new layout and flexible workstations, he could double the number of people on staff with only minor modifications. Further, the new equipment and flexible layout means that a technician can sit at a work station and produce more than could have been produced before, translating into increased output.

Finally, the easily adjustable and movable furniture means that Peebles can easily make changes based on new technology. "If new technology comes along, we would still be able to rearrange or modify the basic layout of the lab without too much effort."

Suction at every bench promotes efficiency



Peebles concludes, "Kudos are due to Lista's sales rep Jeff Skibba, who was always there when we needed him, answering questions, and checking drawings. He was invaluable in getting things done and did a tremendous amount of coordination with other contractors on the job site and the general contractor. Lista had the versatility we needed, the ability to adapt to changes that made the products work best for us, and provided the service we needed to get the job done."



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