



Spinning Wheel

For more on this topic, go to www.dentaleconomics.com and search using the following key words: *handpiece, air turbines, bur shafts, hybrid electric-air handpiece, sensor, Dr. Paul Feuerstein.*

There are many **BASIC PIECES OF EQUIPMENT** that we use in the office that often **are overlooked** as far as upgrading. The air handpiece is one of them. Many of us used a “high speed” in dental school, often by Midwest. When the practice was set up, we bought the one we learned with. The company stills support the original model I had 20-plus years ago. Reconditioned or new turbine, and I am off and running.

When it came time to add fiber optics, it was still possible to use the same model handpiece. Of course, there are many in the marketplace — multiple sizes, couplings and minor features — but the basic design is still the same. The cost of a new one ranges from about \$300 to \$1,500. So a replacement won't break the bank.

The advent of electric handpieces is a quantum leap, and has been improving dramatically in recent years. The cost has been somewhat of a deterrent, as well as size, weight, and balance of the earlier models. But those who have moved there have never returned. I intend to do a report on electrics soon.

Let's return to air turbines. Three companies have revisited the air turbine and added a few interesting wrinkles. J. Morita has revamped the turbine in its newest model, Twin Power Turbine, resulting in increased torque and durability. The company has increased the number of flutes in the turbine and added an extension to make it a “double” turbine. It also has a feature that does not allow the water to “suck back.” Go to www.jmoritusa.com for information, diagrams, and video explanations.

Another company, ProDrive Systems in Montreal, looked at the turbine and bur design and redesigned both. The company is making replacement turbines for certain models of KaVo, Midwest, and Star (although more may be in place as you read this) to enable the operator simple entry to this new idea. The key to this system is the bur shaft and sleeve (spindle) into which the bur goes.

ProDrive has made the bur shafts triangular instead of round. The grip on the burs is remarkable, and allows you to sneak the bur out a little to lengthen it without worrying that the bur will fly off during use. Also, because of the precision of this design, there is less “chatter,” which results in a smoother-cutting bur experience.

Of course, you need different burs, and the company

has partnered with Meisinger, a respected manufacturer, to make this work. Early reports have been close to amazing. Many dental dealers are taking this product line into their systems. To learn more about the subtleties of this system, visit www.prodrivesystems.com.

Midwest has taken a total redesign approach with its new Stylus ATC (Adaptive Torque Control). This is what the company calls a hybrid electric-air handpiece. In simple terms, it is an air turbine with an electronic sensor that monitors the pressure the operator puts on the bur, as well as the rotational speed of the bur. If you increase the pressure on the tooth, the bur remains at a constant speed and torque. When the bur is not under load, it limits the speed, thus putting less wear on the turbine.

Think of the implications of this design the next time you have to cut off an old PFM crown or remove a massive old amalgam restoration. Since there is no motor, it offers some of the features of the electrics without the weight. Keep in mind that it is *not* an electric handpiece, and there are no attachments for other procedures. You still will need a slow speed for other processes. Nonetheless, it is a formidable adjunct for routine operative dentistry. More information is at www.stylusatc.com.

These interesting products have something in common. The designers retreated a step. Instead of improving on a historical product or process, they went back to the roots and started from scratch. There are many young people entering the profession who have no history for comparison. They have been brought up on the Wii, so products like 3D impressions or CBCT scans are not as amazing or impressive as they are to a practitioner of 20-plus years.

New ideas will spring from this new blood, and questions such as “Why do we do it that way?” will be more common. The trite statement of “thinking outside the box” will be a boon to the future. I encourage younger readers to speak up, and not be afraid to question “the old ways.” *DE* has an online forum at community.pennwelldentalgroup.com that will allow you to have your voice heard and make a difference, no matter who or where you are. **DE**

Dr. Paul Feuerstein installed one of dentistry's first computers in 1978. For more than 20 years, he has taught technology courses. A mainstay at technology sessions, Dr. Feuerstein is an ADA seminar series speaker. A general practitioner in North Billerica, Mass., since 1973, Dr. Feuerstein maintains a Web site (www.computersindentistry.com) and can be reached by e-mail at drpaul@toothfairy.com.