

Shining Times

American Orthodontics has become a big name in orthodontic manufacturing due to its passion for personalized customer service, value-priced products and dedicated workforce.

History

In 1968 Daniel Merkel, the current CEO of American Orthodontics (AO), had just worked himself out of the job as comptroller of a large medical packaging company by completing its sale to new owners. At the same time, Merkel's teenage daughter was receiving orthodontic treatment. He was amazed with the cost of her orthodontic appliances, and thought there must be opportunities where he could be involved in manufacturing braces at a lower cost to consumers.

Based solely on his reputation for honesty and his fiscally conservative nature, Merkel obtained financing for the purchase of some machinery from a small, struggling orthodontic company in Chicago. The loan was obtained with just his signature. He moved the equipment to Sheboygan, Wisconsin, in one truck and started his own company. In the first year of operations, times were tough and much of the machinery was in need of overhauls. In the first year, sales amounted to \$300,000.



*Dan Merkel, CEO
American Orthodontics*



*From left: Jeffrey Smith, Mike Bogenschuetz,
Lee Tuneberg and Randy Benz.*

Today, AO has more than 450 employees and sells much more in one day than it did that first year. AO has had constant and consistent growth and profitability every single year since its inception. The company's main focus is providing high quality products that offer the best value to its customers, so that they can improve the self-esteem and smiles of their patients.

Integral to this fair-value equation for products is keeping manufacturing costs low while controlling all facets of production. Today, AO manufactures 95 percent of the products it sells in Sheboygan and competes against companies that have moved production outside of the U.S. to take advantage of low-cost labor. Merkel's early emphasis on creating manufacturing efficiencies and the automation of manual processes has led to AO's premier standing as a manufacturer.

Employees

AO is fiercely dedicated to its workforce. AO has avoided outsourcing while continuing to provide jobs for the local economy. Its philosophy is simple. Treat your employees fairly and with respect and they will, in turn, dedicate their working hours to making the company stronger and more profitable.

AO employs a number of people that have been with the company for upward of 20 and even 30 years. The most experienced employee has 40 years of service. All of this adds up to a workforce that routinely goes above and beyond to make sure they are pulling in the same direction with management. In the company's history, there has never been a layoff and wages, as a whole, have always increased from one year to the next.

One of the examples of AO's family-oriented work environment is the fact that there are no time clocks. Employees are trusted to keep track of their work time and are offered "flex-time," which enables them to start and end their days at various time intervals. Flex-time allows employees to adapt their working hours to the schedule that fits best with their family's schedule.

Although Merkel is not directly involved in daily operations anymore, he still serves as CEO and stays very involved in the company. On a daily basis, he goes through the manufacturing plant and talks with employees. Four times each year, AO holds a traditional "Sheboygan Brat Fry" for all employees during lunch. Merkel cooks the brats and a few other employees and members of management help serve the food. Merkel's continued presence in the factory and his personal connection with employees boosts morale and keeps people focused on doing their jobs to the best of their abilities.

The Domestic Market

From its start, AO has controlled its distribution in the U.S. and Canada through direct sales representation. Today AO boasts a direct sales force of 43 dedicated professionals that call on virtually every orthodontist in the U.S. and Canada. The average industry experience for AO's sales representatives is 13 years with several having more than 30 years providing customized solutions to orthodontists.

International Growth

In 2009 AO passed a significant milestone in its upward growth. For the first time, there is now an even split between U.S. sales and International sales. This 50/50 split is far different than the 76/24 split seen 20 years ago when sales were dominated within the North American market. Over the past 20 years AO has worked hard to diversify its distribution network and to expand its worldwide presence. In the international markets, AO benefits from wholly-owned subsidiaries that are based in the United Kingdom, France, Germany, Switzerland, Mexico, Brazil, China and Australia. These subsidiaries serve exclusively as sales offices because of AO's commitment to manufacture all products at its factory in Wisconsin. The remainder of AO's international sales are generated through its family of exclusive distributors, which are based in more than 65 countries.

"Over the last decade AO has grown tremendously in international markets due to a combination of new products and highly engaged distributors," Jaime Mesalles, VP of International Sales, says, "Our future sales growth in countries around the world lies in our ability to be flexible and adapt to each country's unique needs." The future growth at AO is certain to follow the business axiom: think globally, but act locally.



Chuck Grady, National Sales Manager (left) and Todd Rimmel, Director of Sales Operations

Jaime Mesalles, VP of International Sales

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Products

American Orthodontics manufactures a complete line of orthodontic products that satisfy the needs of specialists for straightening teeth, providing them with one-stop shopping. More than 95 percent of AO's products are made in Wisconsin, which offers the utmost control over product quality and ensures that all products can be sold at a fair price.

For metal brackets, American Orthodontics manufactures the largest variety of traditional stainless steel brackets in the industry. The Master Series line of metal twin brackets improved upon existing Straightwire systems by employing an innovative design feature called Diagonal Torque and Diagonal Angulation, which minimizes occlusal interferences and premature debonding of brackets. Today, Master Series brackets are available in three sizes and hold a commanding marketshare position due to the countless options available to orthodontists.

The top-selling aesthetic twin bracket in the industry is Radiance due to its jewel-like appearance, which is manufactured from monocrystalline ceramic, commonly known as man-made sapphire. Because of its transparent appearance, Radiance brackets are less noticeable in the mouth than cloudy polycrystalline brackets and are several times stronger. In addition to Radiance, American Orthodontics offers several other aesthetic options at favorable price points.

About one out of every five patients worldwide starts treatment with self-ligating brackets. AO offers three different systems in this category – a passive system called Vision, an interactive system called T3, and the newest addition to the self-ligating line – Empower. Empower is a unique hybrid that combines the best of both systems: interactive brackets 5-5, with the option of having completely passive brackets on the cuspids and premolars. Empower is AO's most recent product launch with a variety of system options. By the beginning of May, Empower will be available in all modern prescriptions as well as the industry's first self-ligating bracket with a centered vertical slot.

The industry's best selling direct bond tube is LP Low Profile buccal tubes. Since its release nine years ago, LP Tubes have carved out a dominant position in this product category. Today LP Tubes are available in a vast array of options that meet the



Radiance braces

demands of specialists that expect maximum performance from molar attachments during treatment.

In addition to these core product lines AO also offers a number of other innovative products. For example, AO offers the industry's only latex-free elastics that are manufactured in a completely separate facility from other products that might contain latex proteins, using an independent air and ventilation/exhaust system to prevent cross-contamination. While the profit from selling latex-free elastics is relatively low, there was no completely safe option available for patients with life-threatening latex allergies until they were released in 2007.

Leadership in Manufacturing

AO utilizes a wide variety of manufacturing processes that are specialized to produce miniaturized parts found in orthodontics. AO started to manufacture these stainless steel parts by machining every aspect of them. Today, AO uses very sophisticated molds to powder metal injection mold (MIM) appliances with a proprietary stainless steel. AO was the first company in orthodontics to successfully move from spin casting parts to MIM parts. There is much more efficiency, significantly less rejects and improved repeatable accuracy with the MIM method.



LP Low Profile buccal tube

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AO uses a variety of innovative technologies in its manufacturing process which include powdered metal injection molding, sintering, automated machining, CNC Swiss screw machining, laser welding and marking and diamond wet grinding. All of these manufacturing processes are tightly controlled and are subject to medical device regulations in all areas and regions of the world. By making continued investments in manufacturing technologies and through its partnership with local equipment manufacturers, AO has built a factory unlike any other in the orthodontic industry.

AO has built its own team of automation engineers that design the company's machinery. Because manufactured products are so small and specialized, off-the-shelf machinery doesn't solve the company's manufacturing dilemmas. To counter this situation, AO uses many forms of automated-feed systems, robotics and vision system technologies.

In addition to increases in productivity, automation has also helped to increase the quality of products. As AO has automated processes over the years, it has often found that to get automation working trouble-free, it needed to increase process capabilities in order to send consistently good parts through its automated processes. If parts had small inconsistencies, they would often cause machinery to stop unexpectedly by jamming feeder lines. By tightening its process capabilities, overall quality has improved, the yield rates have improved and automated equipment runs smoother.

Many orthodontists have visited AO's manufacturing plant in Sheboygan, Wisconsin, to see firsthand how the parts they use every day in the office are manufactured. Michael Bogenschuetz, president of AO, says, "Our manufacturing plant is the best marketing tool we have. When doctors visit us they can really see what we are all about and can see how happy and dedicated our employees are to the company."

Sponsoring Orthodontic Education

One of the tenets of Dan Merkel is that with success comes the responsibility to give back to the community. Within the orthodontic community, there is a need for orthodontic education. Toward that end, AO has recently launched several new

initiatives to support the profession at the university level by donating products, by providing funds for research and by sponsoring speakers that broaden resident's horizons as they prepare for their life's work in orthodontics. For example, last year AO became the first and only \$1 million donor to the AAOE, which provides support to educational programs around the world.

One of the most successful university programs is *Wired for Success*, a three-day seminar designed to teach residents about the business aspect of leading and managing an orthodontic practice. With AO's involvement, *Wired* has grown from one small meeting to three separate seminars, featuring many of the leading specialists in the orthodontic industry. This includes experts in practice transition, financial planning, office design, instrumentation and sterilization flow and practice marketing with an emphasis on social marketing. Approximately 40 percent of all United States residents will attend a *Wired* seminar during their residency – all at no-charge to the resident because *Wired* is funded by American Orthodontics and a strong group of sponsors.

In addition to donating funds and sponsoring speakers at courses around the world, AO has recently launched a series of evidence-based symposiums entitled *POWER2Reason*, which offer the orthodontic specialist the opportunity to learn from renowned experts and educators who present evidence across a variety of disciplines and schools of thought. The course outlines for all *POWER2Reason* symposiums can be found at www.power2reason.org.

Through its manufacturing excellence, its commitment to employees, its personalized customer service and its cooperative relationship with orthodontic specialists, AO stands as a shining company on the move. ■

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Empower self-ligating bracket