



Building a Better Hygiene Handpiece

How the new ACCLEAN™ Hygiene Handpiece 2 air-driven prophy handpiece from Henry Schein delivers on the features hygienists want most.

Even though the hygiene handpiece is a critical tool, it's often a bit of an afterthought for manufacturers. The legacy products, while outdated, serve as workhorses that get the job done, so there isn't much effort put into improving them. The focus tends to stay on the clinical side, with some low-speed handpieces even designed to take on polishing so there's no need to invest in a separate hygiene handpiece.

But like dentists, hygienists need tools made specifically for them and the procedures they perform day in and day out. The handpiece needs to do more than just get the job done. It should help them perform their jobs better and to do so comfortably. And that's exactly what Henry Schein product developers had in mind when they went to work on the new ACCLEAN™ Hygiene Handpiece 2.

The team talked to hygienists about what they wanted to see most in an air-driven handpiece, and then put

in a dedicated effort to provide it. The ACCLEAN™ Hygiene Handpiece 2 wasn't just designed to fill a gap or to update an older product, which is so often the case. This premier handpiece is a flagship product that offers the durability, ergonomics and power hygienists need to effectively and comfortably polish patient after patient.

"A hygienist should never have to make do," says Dyan Jayjack, Henry Schein Senior Manager, Strategic Initiatives Handpiece and Small Equipment Solutions. "Hygienists are such a key part of the dental industry, and they should be using the tools developed for their trade. If they want something designed specifically for polishing, this is it."

So, what exactly do hygienists want to see in an air-driven hygiene handpiece? Here's what three hygienists had to say about the features they find most important, along with details on how the ACCLEAN™ Hygiene Handpiece 2 delivers.

What hygienists want: Strength and durability

A hygiene handpiece should last for years, says Tina Clarke, RDH, MEd, so anything she invests in needs the durability to hold up to multiple sterilizations a day with very little maintenance required.

"I work for a community health center, and we don't get brand new equipment very often," says Alyssa Aberle, RDH. "You need something durable that can last a long time, and that includes withstanding the daily hustle of a dental office. Things occasionally get banged around or dropped and you want something that is tough enough to handle it."

A handpiece is an investment, Jamie Collins, RDH, says, and one hygienists are often willing to make themselves if the dentist opts not to. It simply has to stand the test of time.

HOW THE ACCLEAN™ HYGIENE HANDPIECE 2 DELIVERS:

Even though the ACCLEAN™ Hygiene Handpiece 2 is lightweight, another feature hygienists appreciate, it still offers the durability they expect, Jayjack says. Product developers found the right balance between the two, providing hygienists with the resilient product they need while also keeping their comfort in mind.

This handpiece has one durability feature not often found on hygiene handpieces: a coupler. The coupler is made of strong stainless steel that attaches to the tube, allowing for quick connect and disconnect of the handpiece, Henry Schein Product Manager Garrett Campbell says. This feature offers a host of benefits, including longevity.

With many others, the handpiece must be screwed off and on for reprocessing between patients, which not only takes time, but could also damage the threads. When handpieces don't thread off easily, hygienists often have to resort to using oil. The quick connect/disconnect coupler eliminates this issue and the

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repairs it leads to, "further extending the life of the handpiece."

"Once you screw the coupler on, it's securely connected to your hose, so there's no exposed thread to get damaged," Jayjack says. "Having to use lubricant to get the handpiece disconnected, that's where all the wear is. If you get a buildup of dirt because you're handling it all the time, that's where you have your issues."

What the hygienists want: A handpiece that's ergonomic and easy to handle

Ergonomics is vital to Collins, and that means her handpiece must be lightweight, fit comfortably in her hand and be easy to maneuver without her having to put too much stress on her wrist and hand.

With that in mind, it's critical for corded handpieces to swivel and rotate, Clarke said. Otherwise, the cord drags and she has to pull it along with her as she polishes, fighting it the entire time. The limited rotation holds her back, making the entire polishing process "brutal on the body."

Aberle agrees that the handpiece should be lightweight and easy to control. She doesn't want to have to turn her wrist to get the angle she needs, something she's experienced with other handpieces. The coupler's ability to swivel addresses this pain point.

The handpiece also should be designed for comfort, with an ergonomic grip, Clarke said.

"It should rest easily in my hand," Clarke says. "I don't want to have to work hard to grip it."

HOW THE ACCLEAN™ HYGIENE HANDPIECE 2 DELIVERS:

The quick connect/disconnect coupler eliminates the cord drag issue that keeps hygienists from easily rotating around a patient's mouth. Because the handpiece can swivel, it moves separately from the cord, giving the wrist and hand more freedom to move.

Then there's the handpiece itself. It features a larger bulb design in the back that tapers to the finger grip near the front, Campbell says, so the handpiece is comfortable to hold. It's also lightweight while still providing the power needed for polishing.

When developing the handpiece, the team created a few prototypes to see what fit best in different hand sizes, Campbell says, looking at diameter, length and balance. Various hygienists tried the prototypes, helping the team find the best combination.

The ergonomic design also lends itself to a clean, modern look, which patients appreciate, Campbell says.

"It's nice when a patient looks over to see a streamlined product," Campbell says, "not an old silver scratched up piece of equipment."

What the hygienists want: Something that's easy to sterilize and low maintenance

The ability to easily sterilize the handpiece is critical, Aberle says.

Wiping handpieces down isn't enough; they must be sterilized after every use and able to withstand multiple cycles a day, Clarke says. Reprocessing, however, can be time-consuming, especially if the handpiece must be oiled before it can be taken apart for proper cleaning.

"I've been doing this for 20 years, and the handpieces I grew up with constantly needed lubing and oiling to make sure the parts still moved," she says. "I want something with very little maintenance, where I don't have to oil it up after every single use, maybe just once a week or once a month."

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The ACCLEAN™ Hygiene Handpiece 2 has a no-lube motor, Campbell says, so there's no need to run a cleaner or lubricant with every sterilization cycle. The handpiece pops off the coupler in a second, without needing oil to help it along, and the handpiece is ready for processing. There's nothing to disassemble, making sterilizing as well as changing out the handpieces fast and easy.

This approach to sterilization also provides a better presentation for patients, Campbell says.

"Just think about the reaction if patients see hygienists struggle trying to get a tool on for a cleaning," Campbell says. "It's much better to take the handpiece out of the sterile pouch in front of them, click it on and they know it's sterile."



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Henry Schein Product Manager

The ACCLEAN™ Hygiene Handpiece 2 also comes with color bands that can be used to keep track of the handpieces, Campbell says. There are usually three handpieces in rotation at any given time: one processing, one in a sterile pouch and one that's in use or dirty. The color bands help you identify which operator or person a handpiece belongs to so they don't get mixed up during reprocessing. How does that help with sterilization? There's no need to apply tape or carve names into the handpieces or score them with a number, where gook and gunk can build up.

The handpieces design also helps with sterilization.

"There are no hard edges that can catch biomaterials or particulate," Campbell says. "It's easier to clean and wipe down than handpieces that have sharp ridges. All these little things come together to provide an esthetically pleasing yet functional product."

The handpiece also requires very little maintenance, a critical feature for busy hygienists.

"Hygiene visits are more compressed now because there are fewer hygienists, so the last thing they want is to spend time between patients screwing the handpiece off and on," Jayjack says. "That's not an issue with the coupler style handpieces, which is what most dentists have. And they're using them for the same reason: they want the swivel and to be able to change the handpieces out quickly. Hygienists should benefit from that same design feature."

What the hygienists want: A quiet yet powerful handpiece

There are a lot of high-pitch noises in dentistry, Clarke says, so anything that can reduce noise pollution in the operatory is welcome. That's why one of the features she looks for in a polishing handpiece is a quiet motor, a benefit for both her and her patients.

In terms of power, she just wants something she can easily adjust and that reaches the safest rpms for

polishing. Aberle also looks for adjustable settings, while Collins wants a handpiece she doesn't have to operate via pressure.

"That just seems counter intuitive," Collins says. "You want something that is easy on your wrist and hands, rather than having to put pressure on it to make it go."

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With any hygiene handpiece, the goal is to polish the patient's teeth with as little vibration and noise as possible, Jayjack says. You need smooth, steady power and something that's easy to operate. This was all considered during the ACCLEAN™ Hygiene Handpiece 2's design process.

The team at Henry Schein, rather than just focusing on performance, optimized the transmission ratio and design of the motor, providing the power needed at a lower noise level than other hygiene handpieces, Campbell says. It's important to get the

right transmission ratio versus output and power of the motor. The team went through a few iterations to find the right transmission ratio, where the handpiece works in the optimal power band and speed range.

"A good amount of thought and engineering was put into the transmission ratio, the noise levels and how that all packages together," he says. "You also have to fit all that engineering into something that is still comfortable in the hand. Other handpieces might be thinner, but that changes what you can have in terms of the engineering. We found the right balance between the ergonomics of the handpiece and how it can perform."



A new level of convenience in hygiene handpieces

The ACCLEAN™ Hygiene Handpiece 2 is designed to fit into the modern dental hygiene operator. It not only offers optimal performance and low noise levels, its ability to swivel provides the ergonomics hygienists need. The quick connect/disconnect coupler that makes the swivel possible also simplifies the sterilization process, saving time. It adds convenience and can be easily integrated into current workflows.

The goal was to create a handpiece where form, fit and function align, Campbell says, allowing hygienists to perform their jobs better, and to do so comfortably. This isn't just a redesign or a product update. It's a brand new polishing handpiece that will change the way hygienists look at these essential tools. The handpiece sets a new standard in its category, with both hygienists and patients benefiting.

"Polishing comes at the end of the cleaning so you want something that's ergonomic and relatively lightweight because you've already been working on the mouth for a while," Jayjack says. "Something that's easy to handle is also key, and you want to polish without making too much noise, because the patient in the chair can be sensitive to it. We made sure we addressed the hygienists' needs and also made sure we addressed the concerns and needs of their patients with this handpiece."

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