Dry Heat vs. Autoclave

Both methods have their pros and cons. What do you use to sterilize your instruments?

I read the past discussions, but wanted to see if there were any new thoughts. The Hu-Friedy and Orthopli reps both recommended autoclave for their instruments, but most of the orthos in my area use dry heat and have a Statim for their handpieces.

Any thoughts on what is best for the instruments? Thanks. ■ Brandon

I dry heat all my instruments including the handpieces. I use the Cox sterilizer. It only takes six minutes to complete the sterilizing cycle and 12 minutes if you bag all your instruments. I don’t use surgical milk solution and I don’t have any corrosion problems. I use the cheap $30 highspeed handpieces that I purchase on eBay and they last more than a year. When they are bad, I just throw them away. I used to use the expensive Midwest handpieces and I had to send them out for repair every six months.

I second that. I was contemplating the switch, but after talking with people stayed with the Cox rapid heat sterilizers in both offices. I bag my instruments, so 12-minute cycles. I also found some on eBay for a great price, so I have a backup in both offices if needed.

What is the difference between a Cox and a Statim? I meant to research this at the AAO but ran out of time and only got a chance to visit with Statim and was impressed by their machine.

At every practice I have worked at that uses Statims, they break, and often. It seems like they are always being repaired.

I, too, have a Cox. It has been two and a half years and no problems whatsoever. UCLA - Good to know about the handpieces in the Cox! Did you buy the ones from China that are like $150 for six? I was looking at those a few weeks ago.

Rachael1, Yes. This eBay seller sells 10 of them for $189. The shipping time is about two to three weeks.


There are two-hole and four-hole types. You should pick the four-hole type.
ISTR8NTHEM
Posted: 5/18/2011
Post: 8 of 25
UCLA98, we buy these as well. We got sick of handpieces needing service and new $100 motors often. Don’t expect these cheap ones to be as good, but they definitely get the job done, and when they stop getting the job done you throw them out like UCLA said.

COHENORTHO
Posted: 5/21/2011
Post: 9 of 25
I do not use either; instead, I use the chemiclave. This allows us to bag instruments as required by California law but it also does not damage the carbide cutting tips. The vapor solution is expensive but instruments do not need to be dipped in the milk to prevent corrosion.

BRACES101
Posted: 5/22/2011
Post: 10 of 25
I recently got an autoclave and I have been autoclaving my instruments. So far I haven’t had any problems. I use distilled water and my instruments are from Orthopli.

CHARLESTONBRACES
Posted: 5/22/2011
Post: 11 of 25
I use steam autoclave (with vacuum finish) that uses distilled water and use Orthopli and Hu-Friedy. Never any problems.

TINGRIN95
Posted: 5/23/2011
Post: 12 of 25
I, too, have switched to a Bravo 17 which has the pulsing vacuum autoclave. I use some cassettes which are awesome for instant tray setups (minus the tray of course). I have both Orthopli and Hu-Friedy instruments. I have noticed that the Orthopli signature cutters with the old inserts (they changed the metal in the inserts for the increased use of autoclaves) do not cut as well anymore and turn dark.

I really think the dry heat is better for the instruments but I had to switch because I am in Ontario. The government has mandated daily spore testing of the sterilizers and I couldn’t find a daily spore test that would work with dry heat.

Thanks for the info on the handpieces. I, too, will order some and check them out. Paul

REBROSS
Posted: 5/23/2011
Post: 13 of 25
I use two dry heat sterilizers (Dentronix) and ultrasonic instrument cleaning prior to dry heat. I put pliers on Dentronix racks.

I also have been using an industrial/chemical detergent called Alconox Tergzyme, an enzymatic detergent, in the ultrasonic for years now with excellent results.

I autoclave surgical instruments.

BSMCGA0
Posted: 5/24/2011
Post: 14 of 25
I am trying to decide what is best for my instruments and practice.

Here is the response from a Hu-Friedy sales person:

The normal sharpening protocol is once a year (or, if you have had heavy wear of instrumentation, as needed). I understand it’s quite nebulous, but I do want to be clear that both dry heat and steam autoclaves each have their pluses and minuses.

A dry heat cooks the instruments, and that leads to a quicker stiffening of the joint itself. This is mitigated by the use of instrument lubrication. Dry heat, while still popular with orthodontic offices, is the older technology in regards to autoclaves. It
however is still an accepted means of sterilization. Your biggest drawback is the time it takes for the instruments to cool off vs. a steam autoclave.

Steam autoclaves are the newer technology, but they do provide their own set of issues. It is imperative that you used high quality instrumentation with steam autoclaves. Cutters/benders with a low quality stainless steel will be very susceptible to rusting in this medium. The positive to a steam autoclave is that you are able to turn around the instruments much quicker and don’t need to wait as long for the instruments to cool off as you would need to do with a dry heat unit.

Whichever form you use, dry or steam, I would recommend that you sharpen your cutters at least once a year.

I never have to sharpen the Hu-Friedy cutters. I just discard them when they become dull. In six years, I only had to get rid of about five or six of them.

Cox dry heat sterilizer is the fastest. This is why the busy dental chains (such as SmileCare and Western Dental) use this machine. It only takes 12 minutes for one cycle. I use the table fan (see picture) to cool down the instruments and it only takes five minutes. Also the bags that you use for the Cox dry heat are much cheaper than the autoclave/chemiclave bags.

I have used the Dentronix dry heat system since sometime in the 1980s. It is quick and effective and inferior quality pliers will not infect other pliers with rust.

I switched over to a cassette/autoclave system when California issued its edict about bagging, and found out that you really need to be careful about what you put in the autoclave and how well you have to clean/maintain it. Any rusting plier will infect other pliers and you will start seeing spots on everything pretty soon. Even with a brand new Midmark autoclave, new ETM pliers and newer Orthopli cutters, the cutters showed immediate color dulling at the carbide tips, with or without surgical milk. For 25 years, I have used de-ionized water only in my sterilization room for ultrasonic cleaning and rinsing and of course, distilled water in the autoclave. I have come to the conclusion that if you want your pliers looking brand new all the time keep all carbide-tipped pliers out of the autoclave and only run them through the dry heat system.

I have used all three types. Steam corrodes instruments unless you use the surgical milk and is still hard on cutting blades no matter what the reps say.

Chemical stinks up the place and the fumes are toxic so you better have a really good vent system which will also suck out your air conditioning or heat in the winter, and increase your utility bills. With all of its drawbacks, dry heat is still the best in my opinion. I used a $30 convection oven years ago. Over three years it never failed a spore test... of course it wasn’t FDA approved, so we changed to a Dentronix. Still using the same machine 15 years later.