I’m going to a Benco-sponsored seminar on CAD/CAM to try out a few digital impression systems. I was wondering what are the best ones out there and why?

My wish list is:
1. Open file format
2. Invisalign compatibility
3. Powderless
4. Reasonable speed on full arch impressions
5. Plugs into any operatory computer by USB
6. Can reliably get full arch impressions for full mouth reconstructions.
7. Inexpensive fees for models and yearly fees.
8. Under $20,000
9. Accurate scan for ideal fit of restorations

I know I’m asking for a lot. But I know we’ll get something that fits this criteria soon if it’s not here yet. What’s the closest so far?

Yeah, there’s nothing that has all those features. E4D PlanScan is probably the closest to no powder, laptop-based (nothing plugs into an operatory computer yet), open format, fast for full arches, but no Invisalign yet. The iTero recently was approved for use with the E4D mill so hopefully that means the two companies are working together and Invisalign isn’t far off for E4D. Benco doesn’t have this system.

3M True Definition does do Invisalign but requires powder, is cart-based and has a monthly data plan. Though it has pretty much everything else on your list.

Carestream’s system is a laptop, no powder, open and live video, most likely you’ll see it at Benco, but again I don’t think they do Invisalign.

iTero if you are looking to do Invisalign, but it’s not a live video system, slower than the newer scanners, but no powder.

Best idea, try whatever you’re looking at in the mouth. All of the systems have their nuances and you won’t likely appreciate the differences unless you scan intra-ally. Nothing will hit all the points you laid out but it may be a real long time before you get to that point. Things have advanced a ton in the past couple years, the technology is pretty mature and should meet your needs.

You have an incredible wish list. If you find one, let me know! There are many good systems on the market. Powder or no powder, that’s up to the user. Portability of the scanner and size might be an issue, but does it really matter if they have wheels and are easy to transport? The ease of use comes with experience. The doctor’s and staff’s frame of mind has to be open for a learning curve. Full arch impression are available in some and will be more available soon.

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I think one of the greatest advancements is going model-less! Restorations digitally designed to perfection to maximize fit and minimize seating time. The ceramist will now be able to expedite the final product. The dentist will have to be able to get over the hurdle of not having a model to try in the crown once received from the lab. It's all about embracing change!

Yep, on price the only sub $20,000 scanner is 3M, but got to figure in that data plan at least $2,400 per year. And interestingly, if price were the real holdup for most docs, the 3M would have sold a good number of systems but that hasn’t happened yet. Even at $12,000 it's still a lot of cash.

I guess the question is do you wait until the perfect scanner hits the market (and it may never) or do you jump in now realizing there may never be a scanner that hits everything on your wish list?

My lab is really steering me towards the 3Shape device. Fast, no powder, full arches, even a virtual articulator. They tell me it works well for removable partials too, including soft tissue capture and implants.

But it’s pricey at $35,000. No idea as to monthly cost or per use cost. But, lab will reduce their fees for all digital cases, such as single units.

Does anyone have a 3Shape or know exactly what the cost is? As usual, the website does not reveal this info.

3Shape is a really nice scanner, but it’s the most expensive—I’ve heard $50,000 but that was awhile ago, perhaps the newer laptop version is cheaper. The only scanner that does real color. The other color scanners colorize the data.

I don’t know much about the 3Shape scanner (know the software), but I am skeptical on this color shade feature until I see literature on how accurate it is. From what I hear independently, it is OK at best. Work or not, it’s a good start and a cool idea.

Color is super important. We have had this conversation before. If you have not used a system with it and without it, you cannot comment either way with any amount of confidence.

The closest so far has to be iTero. As a long time, happy iTero user, I just want to comment on a few things on your wish list.

Powderless is huge. Full arch impressions are an absolute must have. The last full arch, upper and lower, scan I did (night guard) the patient was in and out of the chair in 15 minutes. And my machine is six years old, with six-year-old computer guts!

I think most operatory workstations would have a hard time keeping up with the processing requirements of a scanner.

When you shop for scanners, make sure you can use any lab you want and use any restorative material you want.