

Interview with Dr. Ramon Berguer – Engineered Sharps Injury Prevention



**Ramon Berguer, MD FACS
Clinical Professor of Surgery, UC Davis
Chief of Surgery, Contra Costa Regional Medical Center**

In support of Sandel's ongoing commitment to healthcare safety and education, the below interview with Dr. Ramon Berguer was conducted in July 2009 relative to Engineered Sharps Injury Prevention. The following is an excerpt of an at length interview:

Dr. Berguer, what are your thoughts on the current state of sharps injury, its impact on both healthcare workers as well as the cost of sharps related injuries?

I believe they are completely avoidable and the consequences can be severe in some cases. I think it's hard to quantify the actual cost of sharps injuries. Most injuries, including those with communicable disease, go unreported.

In your opinion, what is the driving force behind the current sharps injury prevention movement?

This is the second wave in the [sharps injury prevention movement], the first wave being around the year 2000 with the Bloodborne Pathogens Act. It obviously had an impact on non-OR sharps related injuries but it had no impact on OR related injuries. The publication of that data is now catching the eye of the surgical societies and there is the realization that surgeons have not really acted on this information. I think that there have been other factors as well; the regulatory climate is becoming much tighter and infractions are being enforced with fines; and now the industry is providing reasonable needle and suture choices for surgeons, which was not the case 8 years ago. You need all three parts of the solution; proactive education and awareness from professional societies, good product choices, and a tighter regulatory climate. I believe these factors coming together now are the driving force behind the changes we will see.

Do you think the regulatory fines are among the biggest concerns of hospitals?

To some extent yes. In the past, there was a sort of “Wink, wink - don’t tell.” attitude. Now, fines have been levied in other states and have been publicized, and I hear them being talked about in my institution. I believe that this will be taken seriously but it is not seen as a crisis, just one of the many regulatory issues that need to be pursued.

AORN and the nursing community are focusing on reducing sharps injuries. What are the surgeons and hospitals perspective?

I think they are different. The hospital perspective is; number one, the regulatory perspective. There are some OSHA mandates, both at the state and federal level, which require employers to take action and provide safe tools relating to sharps injuries. On the other hand, I think surgeons are only slowly coming around to being aware that this is an issue that needs to be dealt with and can actually rather easily be dealt with. They are coming around slowly but I would not consider it a priority among surgeons yet. It is currently becoming a much more public priority among surgical organizations.

Can you take a moment to explain these three separate entities?

- 1. Engineered Sharps Injury Prevention devices**
- 2. Neutral Zones**
- 3. Hands Free Transfer**

I think the neutral zone and the Hands Free Transfer do the same workflow concept and can be wrapped up into one. It’s either called the Hands Free Transfer, the Neutral Zone or the “No-Touch” Technique.

[These devices] come from the realization that a number of injuries happen during transfer from one individual to another. So that if you reduce the hand to hand transfers, you reduce that chance of an inadvertent sharps injury. The main proponent and research in this area has been Dr. Bernadette Stringer, and the workflow recommendation is to use a so called “Neutral Zone.” The Neutral Zone can be defined pretty flexibly and individually as any area that an instrument can be put down and picked up by the surgeon and the scrub without having to hand it hand-to-hand. It can be a tray, a table, or it can be a magnetic sheet - pretty much anything that is reasonable and not dangerous itself.

A partial hands free technique that can be used when the surgeon is unable take their eyes off the field, such as in ophthalmic and cardiovascular surgery. In this case the instrument is passed hand to hand to the surgeon, but then can be dropped by the surgeon in this neutral zone. This should provide at least half the benefit of the hands free technique.

The studies on the hands free technique are very difficult to perform. Dr. Stringer has conducted two of the three studies that have been published, certainly the two major ones. They suggest strongly that the use of this technique reduces the number of bloodborne exposures of both sharps injuries, splashes and other types of accident and that's why it is recommended by OSHA and by the ACS and AORN.

What has been the past response from surgeons regarding the use of engineered sharps safety devices (i.e. safety scalpels)?

I think we're moving towards what you might call a 2nd generation of sheathed scalpels, following the 1st generation that had extraordinarily poor acceptance. In many cases this was due to poor performance of both the safety mechanism and as a scalpel itself. To date there has been very little adoption, less than 5% market share such that despite the regulatory mandate to use this type of device, they are being used in very few hospitals. I think we are now entering the 2nd phase where there is an interest creating a better design in both the safety mechanism and the scalpel itself. I would hope that the new generation of devices becomes much more acceptable for the surgeons to use.

In regards to Safety Scalpel Handles – do you believe that the surgeon's ability to retain the use of their normal surgical blade, no change in technique, could influence surgeons' thoughts around safety engineered devices?

This has been one of the complaints lodged against the first generation of sheathed scalpels and I think that if new device retain a similar feel and functionality to traditional scalpels this could influence their acceptance by surgeons.

What is your personal viewpoint on sharps safety practices - Use one, or should it be a combination of sharps injury-reduction techniques?

I think they should all be used. That's what the ACS statement recommends.

I think it's very easy to use a engineered safety scalpel, hands free technique as well as blunt suture needles – I use that routinely and I don't find it to be any problem. I encourage the use of the hands free technique in all the cases that I do such that the scalpel is placed in the neutral zone, typically in the closed position, and I would activate it and use it and have the choice of either returning it closed or open to the neutral zone.

Would you agree that 90% of surgeries are done today still using the standard scalpel handle?

The data that I've heard from Jeanine Jaeger was that about 5% market it using safety engineered scalpels. That may be changing as we speak.

We know that the reporting of sharps injuries in the OR has been problematic. Do you see this changing or is it business as usual?

I see the reporting improving at my institution and my guess is that it will improve at most institutions, but I think a significant amount of underreporting will still exist and that this will depend on several factors including the individual, the hospital and the severity of the injury.

The responsibility of reporting isn't only on the institution; it's the reporting on the part of the individual. Once the institution has the data, they are mandated to report it. However individuals may or may not report, particularly if not bound by union laws or employment contracts.

From your perspective why aren't healthcare workers reporting incidents?

There are some similarities and differences between nurses, techs and surgeons as to why they wouldn't report. I think they are all faced with the tremendous inconvenience and time burden of the reporting, which in the middle of a busy day, is simply unworkable if one is to continue performing and taking care of the patients who are scheduled to have surgery in a busy OR. I think that the way the reporting is conducted and the time that's involved are huge barriers. So I think some other way of acquiring the data and providing the necessary diagnostics and care need to be worked out in order for individuals to be able to do the right thing when sustaining a sharp injury.

Also, I think that there are employment issues that are different between techs, nurses and surgeons. Most surgeons are not employees of the hospital; hence they may or may not feel that there would be any compensation for the injury. In addition, the surgeons feel responsible for their patients and their care and for performing their surgery in a timely matter. Most surgeons couldn't even think about taking two or three hours off in the middle of the day because they stuck themselves. Whereas those who are employed are bound by union laws, employment requirements to report and would also be more likely to receive some kind of disability compensation.

The third factor is that there is a general perception that the risk is low. And now with greater testing of the patients we know who the high risk patients. All these aspects can hopefully will surgical personnel do the right thing.

Where do you see the medical community in 10 years in regards to increased safety for healthcare staff with the use of Engineered Sharps Injury Prevention?

I would say in terms of overall sharps injury prevention, I would hope to see it where we are today with the use of eye protection, and masks and routine basic protection from blood and body fluids. The work practices of the Hands Free Technique, the use of Safety

Engineered Devices, like scalpels, along with blunt suture needles and double gloving will just be a routine part of our work. I think that if the products are available and enough education is available through both industry and surgical societies and the regulatory climates remains firm, I think that shouldn't be a problem to achieve.

If there was an engineered safety device that was designed to fit all the needs of a surgeon, including what they are currently used to, do you think that the 5% market share would dramatically increase?

There may be more than one widely accepted device, but I definitely think that right now the regulatory pressure and the awareness of the problem is crucial in creating a desire to achieve 100% use of safety engineered devices. When I speak to people about what we're really missing, it's the devices that are able to function properly and easily. Along with a certain amount of education, I see the potential of going to 100% market acceptance once the proper device and PR is done.