



*Questions for Dr. Aram
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Background Questions

- When did you start your practice? 1997
- What inspires you most about your line of work? I'm consistently inspired by the results from my patients. Most orthopedic surgeons go into the field because we are able to fix our patient's problems. Patients come in with an issue (e.g. arthritis) and we provide solutions. Many of our newer innovative procedures result in rapid recovery. To see that change and progress in my patients is quite gratifying.
- Where do most of your patients reside? Most are from the Mid-Atlantic region. Ninety percent of my patients are from Virginia, Washington DC, Maryland, and Pennsylvania. However, we do have patients that come from all over the US and overseas.
- How many procedures do you conduct annually? I typically do about 800 cases a year.
- Are you seeing an increase in certain types of surgeries? I am seeing an increase in younger patients with hip and knee problems. Among this younger, well-informed group, there is a demand for minimally invasive surgeries and innovative procedures. This type of patient wants an outcome that allows them to continue their active lifestyle. We now have better technology, a better way of doing things so we are able to accommodate such patients.
- What do you think are the driving trends behind that? Many younger patients succumb to arthritis – they still enjoy playing golf, tennis and running marathons. They may have early osteoarthritis, congenital joint issues, or deformities. These patients can be challenging to treat because they are too young for total joint replacement, and they want to regain full mobility and function. My job is to help those patients get back to what they enjoy doing. You can't use traditional techniques you would use for older patients. You need to be mindful during surgery not to sacrifice anything that might impair function. All those concerns force surgeons to develop better ways to do an operation. In an information centric society, we see more and more patients seeking out less invasive surgeries and demanding better operations. Conservation of healthy tissue is key with younger patients. This requires surgeons to remove the disease, while conserving non-disease ligaments, cartilage, tendons, tissue, and bones that will impact the patient's function. The upside to less invasive surgeries is that recovery time is significantly less. Less invasive surgeries mean patients recover faster.

Product Specific Questions

- How often would you say surgeons are presented with poor light situations or challenges? Well I think we have to answer that question based on the type of surgery you are conducting. Lighting is not necessarily a problem when you are making a big incision. Standard OR ceiling lighting is fine for such a case. The challenges are with procedures that require a small incision. I'm often looking down a tunnel to the operative site, where I am trying to fix a problem. Ceiling lights don't provide adequate light to see into the operative field. With less invasive surgeries you need a light source that is flexible and can help you see directly into the operative field.
- How many years have you been using an auxiliary light source, other than basic overhead lights? I started to use auxiliary light sources about four years ago. I switched to the Scintillant Surgical Light recently.
- How did these auxiliary light sources work? This type of light enables me to place the light into the incision itself. The light can be easily attached to a retractor providing optimal light deep into the surgical wound. Previously I worked with a light from Stryker. I prefer the portability of the Scintillant Surgical Light. It's compact and contained. There are no wires and its not connected to a light source. The power for the light source is within the handle itself which allows it to be easily turned on and off when needed. The SSL has lasted for my longest case, which was about four hours.
- Did these devices get hot? No, it is a cool light so there has been no burning of tissue. It's not a laser light therefore it doesn't generate powerful heat.
- Have you worked with tethered light sources? Yes, the problem with tethered light sources is the power cord clutters the operative field. There are so many other cords already on the field, so eliminating one simplifies things for the OR staff.
- What are some of the advantages? Disadvantages? I cannot think of a disadvantage, except that there is a short learning curve to use the light effectively. You need to allow yourself time to figure out the best way to strap the light to the retractor. You need to experiment with the different angles and distances; how far out of the incision you need to be to get the best lighting without the light tip being in the way. I've figured this out after a few cases.
 - Advantages? It's flexible and easy to secure to any retractor. I don't have to deal with a light cord or its sterilization.
- Do you feel the SSL can improve visualization of land marks within orthopedics and help identify bleeders? Yes, it does. The other benefit of use is you can take it off the retractor and move it manually into the wound to check for bleeding deep in the wound. From that standpoint, it's very versatile. The light is flexible; it's malleable like a coat hanger, so you can bend and alter it whatever way you want. When you work within the femur bone, you can put it right into the canal of the bone. It is great for examining the bone if you are

concerned that you may have perforated the cortex with the awl, reamer, or broach. You can actually stick the tip of the light into the canal and look for perforation!

- Do you feel these benefits provide time savings? How much? Yes indeed, it does save time. Once I taught my scrub nurse how to strap the light to the retractor she does it at the beginning of every case. I can see what I'm doing and that saves a good amount of time. I can even use two lights on two retractors if I want additional lighting and spend less time adjusting the direction of the light. There is no need to readjust the ceiling light. You don't have to spend time cleaning or sterilizing, which equates to time savings.
- When you did your residency, what kind of light sources did you use? I did my residency, almost 16 years ago, and we didn't have portable light sources. We used headlights and/or the standard ceiling OR light. The headlight had its problems. You had to tilt your head in a certain position to get the light source where you wanted it. This always resulted in a sore neck, sore shoulder, and aches in the trapezius muscle. I couldn't see myself using it long-term in my career, and especially not during procedures that lasted more than three hours. I remember being perplexed and asking myself, "Why am I being constrained by a light source?" Now with the SSL I can focus on the field of vision and have the light source be independent of my head.

Minimally invasive surgeries

- Minimally invasive surgeries typically means smaller incisions, how have you adapted to these changes? Light source is one new technology. It's important to point out the inaccuracies with the term, "minimally invasive surgery". It's a misperception that MIS means a smaller incision. That is not our main focus. MIS means minimal invasion to the body tissue (muscle, tendons, nerves, bones). You can't judge it only by a small incision. A smaller incision can lead to additional damages to deeper tissues. I've adapted to doing more MIS. I've incorporated new technologies to help me do the operation better (e.g. computer navigation - allows me to see the patient's anatomy without seeing it directly but electronically). Also new cutting tools provide a high degree of accuracy. In arthroscopic surgery we use a fiber optic camera, to view the joint and correct the problem. We use robotics in knee replacements to improve our precision.
- What type of orthopedic surgery do you specialize in? 60 percent knees, 30 percent hips, and 10 percent shoulders.
- Can you explain some of the limitations that are prevalent in MIS hip procedures? Hip is a deep joint with lots of tissue to traverse; some people have more tissue than others. With the growing obesity epidemic we are seeing heavier patients. With such patients there is thick muscle and a thick layer of fat. Making a small incision requires big retractors and a light source that can help you see down a tunnel to operate. In such examples, you are able to get down to the joint safely with those kinds of tools. Without the SSL, you'll have to make a bigger incision and conduct a more standard type of operation.

- Do you feel it is critical to have a good visual of the acetabulum during a MIS hip case? Why? Yes. You have to see it directly or electronically with computer navigation. You have to know the shape of the acetabulum and see what it looks like in order to reconstruct it. You have to see the rim, the base, and the cup. Common problems that can occur from malpositioning of the acetabular component include: dislocation, pain from instability, impingement, and tendinitis. The light source is critical for one to see the entire acetabulum, and facilitates its preparation and cup insertion.
- Do you think all Total Hip Replacements will move to minimally invasive surgery? Yes for all simple primary total hip replacements. Today, most surgeons are still using big incisions and cut muscles to gain exposure, but they will be urged to learn MIS total hip replacement if not for less trauma, then for economic reasons. Think about it, why would a patient want to have very painful operation, a big scar, more pain, and longer recovery? Well informed patients want MIS. There are higher risks of complications with big incisions. With proper MIS techniques there are fewer complications. Patients seek out surgeons that do MIS well. It's become a differentiator.
- Do you feel these numbers will increase with the baby boomer population? Yes. Baby boomers are a big driver behind this trend. Jane Fonda is a good example. After repetitive wear and tear and numerous workout programs, she needed two hip replacements. Many of the baby boomer population want to stay active longer. They are demanding quicker recovery and they yearn to be more active than previous generations.
- Anything else you'd like to share? Scintillant is a good light source and it's absolutely critical for minimally invasive surgery.