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International Round Table Discussion: Safe Patient Handling & Mobility Technology

Participants:
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Tim Kuzma, Director, Alpha Modalities

Introduction

There has been a tremendous amount of development over the last 30 years in the technology available to healthcare facilities to make it safer for staff to lift, turn, transfer, and mobilize patients/residents. From the early 1990s when safe patient handling programs utilized slide sheets, transfer boards, and manually operated hoyers to reduce musculoskeletal injuries to staff, the evolution of technologies available has been dramatic. Healthcare facilities in the 21st century have state-of-the-art ceiling lifts, powered and even motorized mobile lifts, along with an assortment of new technologies to meet the increasing demands of patient quality initiatives and early mobility programs. This discussion looks at this evolution from 3 leading technology manufacturer's perspectives from the United States and Scandinavia, and asks what they perceive as the drivers of change, the barriers to these changes, and what safe patient handling technology will look like in the future.

Keywords: safe patient handling, equipment, technology, ceiling lifts, air assisted devices, slings

Moderator (MOD): Thank you for joining me in this roundtable discussion regarding safe patient handling and mobility (SPHM) technology. There is no one more expert on this topic than yourselves. I would like to start by asking Dave from HoverTech, how have you seen technology in friction-reducing devices and slings develop over the past few years?

Dave Davis (DD): Our product has to hold air, so we have been looking earnestly for a high-quality, breathable material that both the substrate and the coating give a very good breathability or moisture vapor transmission rate (MVTR). That technology has really improved over the last several years and allows us to make products that are better for patients' skin.

MOD: You seem to be targeting some other areas that are of concern in health care.

DD: Yes, to prepare for longer stays and long-term care, potentially. These newer products are more compatible with some of the low air loss beds and other technologies that are out there and used when people are in bed for longer periods of time.

MOD: Anders, how have you seen technology develop in your own area over the last several years? Not just the ceiling lifts that you are well-known for at Guldmann, but in other areas as well.

Anders Drechsler Jensen (ADJ): Certainly our ceiling lifts have been the product area where we have seen the most technology changes with ongoing improvement. The biggest thing here is trying to get the equipment to become intelligent in terms of the equipment itself providing more information on what to use, when to stop using it, or even providing information regarding how long that piece of equipment has been used.

MOD: Monitoring the use of equipment has been a major issue. How do you overcome the ability of staff to record that equipment has been used when in fact it has not?

ADJ: With the technology we currently have, you can manipulate the system to make it look like you used the equipment even if you didn't, but it will take you just as long as if you had done the work you should have been doing. There is no way to make the equipment look like it ran for

4 or 5 minutes when it only ran for 10 seconds. One of the other things we are looking at is where the equipment is at any given time. If the equipment wasn't where it was supposed to be used, then the procedure probably wasn't done.

MOD: I thought it was quite revolutionary when ceiling tracks became permanently charged so that users didn't have to worry about where the motor was placed after using it. Guldmann was the first company to introduce that?

ADJ: I think so. We introduced it in 2002. That is when we launched the first piece of lined tracking.

MOD: Tim, as somebody who is involved in the production of slings with Alpha Modalities, I am sure you have seen massive changes in this area over the years.

Tim Kuzma (TK): There have been some challenges, and one of those is greater weight capacities being required by the industry. Another challenge is body morphology on the design of some of the slings. We are also seeing some new fabrics on the market. We have been working with manufacturers to develop some new properties in fabrics to enhance patient outcomes. The industry is also exploring new fabrication techniques. Sewing has always been the standard, but there are some new welding and seam tapes that are quite interesting and offer a better adhesion than the current systems. There are challenges to the durability of fabrics to survive through the commercial cleaning process, so those are areas that we have seen the most changes, as well as custom labeling and color options. There is no one standard right now, but there are a lot of options, so we are looking to see what works best for the different clients.

MOD: You mentioned in an earlier discussion the pannus sling. Have you noticed some facilities have advanced their safe patient handling to the point that they are willing to look at different sorts of slings?

TK: It depends on what part of the country they are from and the evolution of their safe patient handling program. If the program has been running for years, we see this need more. For those with newer programs, we don't at this point. We do see challenges on a small scale for different kinds of patients and their body morphology where standard slings don't necessarily work for them. We are seeing it, but it is sporadic, and it really does depend on which part of the country they are in.

ADJ: I agree with Tim. I would add to that the differences between the facilities that have years of experience in SPHM and those that are just getting started. The ones that are just getting started skip a lot of the learning challenges that the early adapters experienced, but we're finding that some of the larger facilities that we have worked with for 10-15 years at this point will have very specific requests. This creates a situation where we have to balance between customizing or developing a very specific piece of equipment or sling or material on a specific sling when the volume will not come close to some of the slings they are using on most of their population. It quite often becomes a segue into finding ways to use the old fashioned styles and models in a different or expanded way. Sometimes there just needs to be a compromise. You can put a lot into some small changes, and the gain is not keeping up with the cost.

MOD: Dave, you manufacture the HoverSling, which is a very unique concept. Do you find that clients start out ordering the more basic slings?

DD: Yes, mainly because of compatibility issues. That has been one of the biggest holdbacks with the HoverSling. Clients say they want to use it, but then the lawyers say they cannot use it.

MOD: What is everyone's thoughts regarding using one company's sling with another company's lift? What are you finding out there, and what would you like to see?

DD: With respect to Anders and Guldmann, I understand being a manufacturer, you will probably have a different opinion than I have. In my opinion, if the company is certified ISO 10535 and if the hospital staff are trained properly, then I do not see a reason why they cannot be interchanged.

ADJ: As a manufacturer of the hardware and the slings, there is no legal shield of any kind that we can wave in front of a client that says we waive all liability if you start mixing and matching with our equipment. Tim has sold a lot of slings that go on Guldmann lifts, and, trust me, if there was a legal way of preventing it in the United States, we probably would have looked for it. There just isn't, in my opinion. I do not think it is very difficult to find the reason for any incidents or near accidents. If something happens, the reason is usually very clear whether it is a sling breaking or being mishandled or a piece of equipment breaking or being mishandled. I do not see why there should be any legal battles over mixing and matching. I do not believe there is one. We have actually tested this, and there is no way to do it.

MOD: Tim, this is obviously a very important issue for you.

TK: It is, and, in mature markets where there is an established program and the hardware has been in the facility for years,

we do not see this issue as much as we do in new programs starting up. We are also aware there are 2 manufacturers that we know of that still promote this thinking, and, as Anders said, there is no legal recourse to stop it. They instill fear in the client or end user, so it is a continual battle. There are some that we win, and some that we don't win. I think if the manufacturers could agree on some standards that we all met, then it might go away. I think, in the long term, it would truly benefit the end users because not every manufacturer meets everyone's needs.

MOD: That is true, and I think that is the beauty of the diversity of the SPHM market today. All of you seem to agree that you would like to see one company's slings being allowed to be used on another company's equipment.

ADJ: I think it is incorrect to say that we would like to see it being allowed because it is legal. Some companies choose to use scare tactics and say we are going to void all warranties if you do this.

DD: Yes, I have heard that more than once. They say they will void the warranties, but they can't do that. However, it is enough to scare the hospital into saying they won't use other slings on the equipment.

ADJ: If you go out and buy a car and it is equipped with Goodyear Tires, and you tell the dealership that you don't like Goodyear Tires, and you ask them to put some Bridgestone Tires on it, they aren't going to tell you that if they put Bridgestone Tires on and your light doesn't work, there is no warranty on it.

MOD: Good point. I think it is an area that is going to remain controversial for a while. It brings me to another question. Some equipment has been designed for compatibility, rather than based on evidence, such as the situation a few years ago when manufacturers made the wheels smaller on their mobile lifts to fit under a particular gurney. Yet that contradicted the evidence that bigger wheels reduce push-pull forces. What are your thoughts on when companies adapt their equipment in a way that goes against the evidence in order to make the sale?

DD: I'm not sure if it is just to make a sale. The unfortunate thing is, if they are using a lift with smaller wheels rather than larger wheels, the push-pull forces are greater, but at least they are still using a lift. Some of these hospitals only have older equipment. If there ever are standards set, by the time a hospital gets around to buying all new equipment to replace the older equipment, it is still going to be a number of years before everything is going to be compatible. We would love to have all evidence-based products, but sometimes that isn't reality. Sometimes making something work not quite as good as what we know it can, but still better than what they are doing, may be a better solution.

TK: I agree with Dave. Some of it is market-driven. We've seen where the SPHM coordinator says we have to compromise. My budget doesn't allow the evidence-based solution, but this is a stop-gap measure, and this is the best that I can offer them right now. There are compromises that need to be made with the technology in many situations. I don't think that these products are developed just to drive sales, but instead as a response to a customer need. The customer is saying I need to be able to get this floor-based lift under this gurney that is difficult to get under. Ultimately, maybe a ceiling lift would have been a better choice, but the budget may not allow it or there may be other factors that contribute to the need to use a floor-based lift in the situation or physical environment.

DD: I agree with Tim. It is really to solve a need, not just for the sale. Sometimes compromises do have to be made.

ADJ: I think there is more to it. Sometimes the customer needs to check off the box that they have a lift where a lift is definitely needed, and they would rather check the box off than have the best solution. There are really no good mobile lifts with small casters that will move much more than 350 lb. I flinch when I see a mobile lift on small casters and it is labeled for 700-1,000 lb. That is a backbreaker.

DD: I agree with you, and a lot of those stretchers, especially the older stretchers, do not have that weight capability anyway, so again, that is part of the compromise. I've done push-pull studies with ergonomists, and it is amazing the differences you get when you go from bigger wheels to smaller wheels.

ADJ: Yes, it is absolutely horrible.

MOD: I always remember Dr. Audrey Nelson asking manufacturers to develop a motorized lift to reduce push-pull forces. I know there are a couple of companies that make them. Do you think that solution is a viable one, or do we need to look at having some standards regarding the wheel size on mobile lifts and manufacturers talking to each other?

ADJ: It is funny how sometimes it seems like something should be a good idea in health care, but it is illegal in all other industries. Using a powered device to move people around without the person being moved having access to the controls

is breaking a lot of rules in most every other industry. We've seen a couple of Swiss companies, a Danish company, and a Japanese company that have come out with these powered devices or adaptable motors for devices. The only places I've heard they were introduced, they were also taken out again very quickly. If you run into somebody, it will absolutely break their toes. It will also pull a doorframe off in a heartbeat. It is not enough to just make it powered. We probably need to take the step fully and start talking about robots.

TK: I actually think the Japanese have developed some that look at turning patients.

ADJ: And even moving them as well.

MOD: That brings us to another question. What do you see as the way forward with safe patient handling equipment over the next 5 and 10 years?

DD: I think that as technology improves and as metal strength improves, we will have smaller, more compact equipment that may be able to be used more in home care and long-term care. We've developed products for the EMS market that people have never seen before. I think that the whole safe patient handling world is continuing to evolve, and it is being used in more healthcare departments.

ADJ: I think technology is the only way that most modern societies are going to be able to handle the amount of elderly people and people in a critical, fragile state that have survived horrific injuries that weren't able to survive 5 years ago. I don't think we've seen as many people with prosthetic limbs as we see now. In 10 years, I think we will be used to seeing some robots doing more than just driving food, medicine, or equipment in the hallways of hospitals. I think we will see robots being more actively involved in care, and I know one of the bigger universities in Toronto has started some research into a technology type caregiver that is keeping an eye on people in residential and long-term care settings.

TK: I think one of the things that will be a challenge for equipment moving forward is sustainability and user interface. Still today, we hear a lot of users push back with the excuses of "I don't have enough time" or "I don't know how it operates." Rather than the equipment being developed any further, programs and sustainability of programs would be a bigger focus to justify continued development on equipment.

MOD: It is the million dollar question. How can we get healthcare workers to integrate the use of equipment into their day-to-day practice?

DD: The way I equate it sometimes is to when seat belts were introduced. At first, many people refused to use them. It wasn't until it was legislated that people started using them, and, if you only have one seat belt in the car for 4 people and you have to go get it out of the trunk, you would never use it. We all know it saves money and decreases injuries to use SPHM equipment, but until it is legislated, it won't become second nature. I think that is what is going to make it work.

ADJ: Dave is right about that, unfortunately. Common sense sometimes takes the back seat to anything you have been forced to do because it is illegal to do it anyway else. The accessibility to equipment at any given point in time is important. Using the vehicle analogy, you don't go into different types of vehicles and find that some have seat belts and some do not because it is law. You can go into facilities that have equipment sporadically. It's not going to become second nature, like having a pen in your pocket to write with, if you have to wonder where it is and how to use it. Until it becomes a law in the work environment in health care, like the laws that protect workers in other industries, it is going to be really difficult to enforce and even to implement.

DD: We all know it is crazy, but try to ask a steelworker to move a 200 lb piece of steel without a lift truck. It just won't happen.

ADJ: I just checked into a flight and my suitcase was 70 lb. The flight attendant was barely 70 lb, and, rightfully so, she refused to move it. I applauded her. What would have happened if that was a nurse refusing to move a person?

MOD: Tim, what do you think we can do to try and engage staff more?

TK: What I've seen is that you need the buy-in from the caregivers, and, unfortunately, we are fighting the perception of "I have always done it this way." Also, the hospital has a priority list with CMS and Medicare at the top of that list, along with the rules and regulations they have to follow regarding injuries to caregivers. Even with legislation in the state of Washington, safe patient handling is not a top priority. If staff choose not to follow policy or choose to do a manual transfer, there aren't any consequences. Part of that is the hospital says we are already experiencing staff shortages, so we do not want to penalize the nurses. They aren't really focused on what is going to happen to that nurse if he or she gets injured. I think it is going to be a long process where we need to get buy-in from the nursing schools with the young graduates and continue to work with the generation that has been there for many years about changing how they do their work practice, but they need to get the support from upper

management to identify it as a priority. They need them to say, "If it's going to take 2 minutes longer, you need to do it." I am amazed at some of these patient satisfaction surveys. They focus on how quickly the nurse answered the call button when they wanted to go to the restroom or wanted to be boosted up in bed. By adding 2 more minutes to that response time, the patient might complain it takes too long, so I find people flip back into that manual mode.

DD: Going back to the seat belt analogy, I'm sure we've all seen how younger people automatically put their seat belts on. I was driving 2 blocks one day with my nephew, and I didn't put my seat belt on. He immediately told me to. It's that change of mind-set.

TK: Look at the kids walking around with smartphones and tablets that never look up. The last thing I want to do is stare at a screen all day, but it is a different mentality, a different generation.

DD: That is why I think we should all donate products to nursing schools to try and get the younger generations using it or at least being aware of it.

TK: That is great. We need to get management in the hospital systems to buy into it as well.

MOD: I agree. Upper management is a big issue with this. Programs collapse because upper management is not actively doing anything to support the program.

DD: I think part of that legislation needs to hold people accountable. For instance, with the seat belts, you have Click It or Ticket. You get a ticket if you don't use it. If upper management would do something like that, that would give SPHM some teeth to make it more second nature. Once you reach that point, they start using it.

ADJ: There are a few larger health systems that have started adopting some stricter rules. They have even gone so far as to say that if a ceiling lift in a room is not working, then the room is taken out of commission. They move the patient out. That is a very strong message to send, and it enforces the message to caregivers. You would never put a patient on the floor because you do not have a bed, and they are adapting the same thing with the lift technology. I think one of the things they are banking on is that the more you can use the equipment for (more than one task), it becomes a tool that will actually shorten the length of stay in some departments. All the sudden, you have a business case with more than one tangible, and it becomes interesting for upper management.

MOD: Dave, you mentioned home care in the areas you would like to see more involved in safe patient handling in the next 5 years. I feel this is an area that has been neglected in America. I wanted to know what your thoughts are regarding home care and safe patient handling technology. I know there have been some financing issues with this area.

DD: Our local hospitals were using our products, and then they were sending the patients home and realizing the HoverMatt was not what they needed. They actually needed ceiling lifts. At that point, we started selling and installing ceiling lifts and paid a lobbyist in Harrisburg, our state capital, to see if there was any funding available. We know it is cheaper to keep someone at home than it is to put them in a long-term care facility. It was amazing; we couldn't get anybody to even listen to us. It is foolish to not put lifts in people's homes to help them. I don't know what it is going to take to get more into the home care environment.

MOD: What is it like in Europe, Anders? Is there more success in home care there?

ADJ: Yes, at least in Scandinavia and the Western part of Europe, home care and long-term care are the big drivers in safe patient handling. Hospitals are just now beginning to adapt. A lot of German hospitals are slow to adapt. Some British hospitals are adapting at a quicker pace, especially with new construction. The system that is in place is really what is driving it. I don't know if there is not enough nursing homes to take care of the elderly population, but there is a goal to have people stay in their own homes for as long as possible. Home care has been provided through the government-paid health care.

MOD: It is interesting because I was talking to someone from the Chinese SPHM Association. She was saying, because of their culture, their SPHM drivers are in the home environment, and it is just now moving into acute care, which is opposite of what we see here in the States.

ADJ: There are some interesting studies, even in the US. There is a long-term care group out in the Midwest, and they are realizing they cannot build enough nursing homes to accommodate the amount of elderly people they will need to care for in the near future. They have to do something more for people to stay in their homes. They have done calculations regarding what would need to be done to the average American home to make it accessible and a place where they can stay safely for a lot longer. They've come up with numbers in the $45,000-60,000 range to adapt an average American one-family home. You aren't staying very long in a nursing home for $50,000. It is more costly for

the caregiver to come out to the home for visits, but I think the business case that has been done in Europe needs to be looked at by the US. There is a lot of technology being put into people's private homes, from chairs to automated toilets to bed systems and ramps. It just makes sense because there is a lot of money to be saved if someone can stay home and not go into a nursing home.

MOD: Thank you all for your contribution to this discussion.

This international round table discussion was moderated by Heather M. Monaghan, MHSc, RN, Editor-in-Chief of the International Journal of Safe Patient Handling & Mobility.

Dave Davis is President and founder of HoverTech International, a medical device company, and market leader in air-assisted patient handling technology. Established in 1997, HoverTech International started by offering a niche technology, which has now grown into a standard of care for top healthcare facilities globally. In developing HoverTech International, Dave has led operations, sales management and product development. He currently holds 18 patents for safe patient handling devices. As an industry advocate, he supported the creation of the first Safe Patient Handling Association to further education and certification standards in the medical community. For his efforts, he was awarded the 2016 National Advocacy Award for Safe Patient Handling presented by the Association of Safe Patient Handling Professionals. Dave has also held offices in professional associations and has been a speaker at national conferences. His philanthropic contributions include charitable donations that support nursing education and community programs. Dave is a graduate of Penn State University with a Civil Engineering Degree and has a certificate from the Manufacturers Resource Center executive training program.

Anders Drechsler Jensen has served as President/CEO for Guldmann Inc. and Guldmann Care-Lift Solutions ULC for the past 18 years where he succeeded in building the North American region for Guldmann from almost zero to a multi-million dollar company today. Best quality products and solutions with a solid return on investment for customers have been and is the trademark for Anders and Guldmann. Several very large contracts have been completed, but Anders has always found time to work with people and organizations in order to support quality of care via cutting edge technology and highest level of service. Single individuals and national groups have been supported with a visit to their home, or backup on Capitol Hill. For more than two decades Anders has been successful in working with Medical Devices. He began by using his skills as a Mechanical Engineer within the Linak sales organization, creating ways for customers to use actuators as a component in a medical device. In addition, his experience encompasses design in furniture, engine-controls, agriculture equipment and robotic solutions.

Tim Kuzma is Director at Alpha Modalities and started the company in 1996 with the vision of providing clients with well-integrated Safe Patient Handling solutions that focus on safety, compatibility, and cost-effectiveness. Prior to starting Alpha Modalities, Tim was a Regional Manager for Arjo on the West Coast. Tim is a graduate of the University of South Florida with a Bachelor's Degree in Biology.

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