Transcript
"An Introduction to Seating and Positioning for Users of Assistive Technology"

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Imagine yourself comfortably seated at a desk typing on a keyboard and gazing at a monitor that is set up to fit you personally.

Now imagine yourself typing on a laptop while on a flight in a tiny seat in coach, with people on either side of you, and the person in front of you in full recline.

Which situation would you prefer, would you find most comfortable, would you find most productive?

This little example provides a glimpse into the importance of seated position on one's ability to participate in activities.

Now imagine that you have a disability that makes it more difficult for you to adjust your seated position independently and further that you have a communication disorder that prevents you from using your voice to communicate your ideas. Thus, you need other strategies such as sign language or devices like that laptop to allow you to speak to others.

How important is being in a seated position that allows you easy, comfortable access to that device or strategy now?

Clearly, appropriate seating and positioning is imperative for individuals who use Assistive Technology and if you are likely to interact with these individuals, having some knowledge in this topic area is a great asset.

My name is Aileen Costigan and I welcome you to this web-cast entitled "An Introduction to Seating and Positioning for Individuals who use Assistive Technology"

Slide 3
The goals of the module are to answer the following questions.

Slide 4
Why is seating and positioning important to individuals who use Assistive Technology?

Slide 5
What does appropriate seating and positioning look like? Further, what should one be looking for when seating and positioning individuals who use Assistive Technology?

Slide 6
What are the roles of Assistive Technology Team Members in dealing with seating and positioning?

Slide 7
And finally what resources are available and when should a referral to address seating and positioning issues be made and to whom?

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To address these goals, this module will discuss the following agenda of topics. We'll look first at the role of the occupational therapist in Assistive Technology to provide some insight into why it's appropriate to have a presenter with an occupational therapy background, such as myself, provide you with this information. We'll then review some of the terminology you will hear me use throughout the module so that it is familiar to you when it is next presented. Next, we'll examine seating and positioning and its importance to individuals who use Assistive Technology before diving into the related role of the Assistive Technology team member, characterized by the three R's- recognition, resources, and referrals, each of which we will discuss in more detail.
We'll then wrap up with some take home messages followed by a case study and some quiz questions that you can use to test out what you've learned.

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An occupational therapist's ultimate goal is to facilitate an individual's ability to function independently, and isn't that also the goal of providing Assistive Technology? Thus, it is not surprising that the two are often linked.

Consider Assistive Technology aimed at improving communication. Communication is truly a mark of independence and also enables independence in other activities. Think for example of the difference between directing your own care and being cared for. Given their ultimate goal, it makes sense that the occupational therapist would be interested in enabling communication.

Occupational therapists are also traditionally thought to provide rehabilitation to the upper body while our pals the physical therapists are connected to the lower body. This again demonstrates the link between occupational therapy and Assistive Technology since often the upper body is used to operate whatever strategy or device is put into place. Further, occupational therapists are also connected in the literature and in clinical situations to the provision of gadgets, making them natural members of the multidisciplinary Assistive Technology team.

As part of their clinical education, occupational therapists also receive basic training in seating and positioning. Now, not all occupational therapists go on to develop specialist level expertise in seating and positioning. But the basic training they do receive puts them in a position to provide input to the Assistive Technology team in many cases and also allows them to identify when a specialist needs to be consulted.

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Occupational therapists also develop expertise in evaluation and assessment as part of their educational training, particularly with a technique called task analysis. Task analysis involves the breaking down of activities into their component parts and associated skills. This technique can be especially beneficial for Assistive Technology assessment because operation of a device or strategy is a skill heavy activity. Occupational therapist's also have the ability to assist with assessment in many different skill areas related to Assistive Technology such as:
Visual perceptual skills which refer to how the brain interprets what the eyes see, motor skills or how the body is able to move, cognitive skills refering to how we think, reason, and remember and sensory skills or how our various senses are working. Occupational therapists tend to focus on tactile senses and other senses associated with movement while other professionals will take primary responsibility for the assessment of visual and auditory skills.

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Lets review some of the terms that I will use throughout the module. These terms are likely to be used in the clinical environment when professionals are discussing seating and positioning,so familiarity with them is imperative to effective communication amongst Assistive Technology team members. The first set of terms are related to muscle function. When one hears the term muscle tone, often a picture of a guy like this one springs to mind, the body builder type with a large, sculpted physique. While it is true that this gentleman does present with superior muscle tone, one must be careful not to misinterpret the term.

Slide 14
Muscle tone actually refers to the state of tension in a muscle and not the size or shape. So the lady on the right here also demonstrates excellent muscle tone without being built like the body builder. Muscle tone is important to a discussion of seating and positioning in Assistive Technology since it contributes to posture, range of motion, and control of movement.

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The term spasticity refers to a state of abnormally high muscle tone resulting, in difficulty moving body parts voluntarily leading often to difficulty accessing Assistive Technology. Individuals with cerebral palsy, spinal cord injuries, and acquired brain injuries may present with spasticity. Hypotonicity refers to a state of abnormally low muscle tone which may also impact an individual's ability to access Assistive Technology. Individuals with cerebral palsy, autism, and Down syndrome may be likely to exhibit hypotonicity.

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The next set of terms relate to body position and will be frequently used to describe the seating and positioning of individuals who use Assistive Technology. The term midline refers to a line through the center of the body. Objects or body parts are said to be at or near midline if they are close to this line. For example, the head of this figure would be said to be at midline since it is aligned symmetrically on the neck and shoulders.

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The terms proximal and distal relate to a body part's proximity to midline. Proximal means that a body part is close to midline while distal means that a body part is further away from the centre of the body.

Slide 18
Watch the position of the star for an example to illustrate these terms. The shoulder…

Slide 19
… is proximal to the elbow…

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… which is proximal to the most distal fingers.

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To understand the importance of seating and positioning in Assistive Technology, let's look first at the overall goals of seating and positioning. Move to the edge of your chair, hands in your lap and pick up your feet. Hold this position for a moment. How do you feel? Are you comfortable? I'm guessing probably not. So the first goal of seating and positioning is to provide comfort. Try the second step. Assume the same position, hands in your lap and feet up, and lean far over to one side. Hold this position. Do you feel safe and stable? Again I'm guessing that the answer is probably no. So the second goal of seating and positioning is to ensure safety and stability. Now the third step. Assume the same position, lean far over and reach across midline of your body with your arm. Is that easy to do? Do you think that you could do a lot from this position? Probably not, so the third goal of seating and positioning is to promote and enable functional skills.

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To review, the three overall goals of seating and positioning are to provide comfort, to provide safety and stability, and to increase functional skills.

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For more complex cases, the three overall goals discussed in the previous slide are addressed but other goals are also of concern. These are the accommodation of impaired sensory abilities, the accommodation of and reduction of the effects of abnormal muscle tone and reflexes, the accommodation of structural physical differences, and the delay or prevention of further structural physical differences. While the rest of this introductory module will focus on the role of basic seating and positioning that addresses the goals of comfort, safety and stability, and function, it is important to recognize that individuals who require Assistive Technology may be prone to concerns with sensation, muscle tone, reflexes, and structural differences. In more complex cases, it may thus be necessary to consider these extended goals.

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The dangers of poor seating and positioning include: pain which can result from a number of factors such as contractures. A contracture is the shortening of a muscle such that a joint remains fixed in an abnormal position. Pain can also result from skin breakdown. Many individuals who require seating and positioning will often lack mobility and strength to adjust themselves, resulting in stress and pressure on the skin. Poor seating and positioning may also result in impaired function. Contractures, which can negatively impact range of motion, may impact function. For example, imagine how much more difficult it would be to reach for objects that you want or need if your bicep muscle was contracted so that your elbow was always bent at 90 degrees? Imagine if you were dependent on those objects for communication or other fundamental life activities. Impaired function may also lead to the use of compensatory movements. For example, if someone is poorly seated at the pelvis, they may begin to hike their shoulder unnaturally to complete everyday tasks in a manner that is not efficient or safe since the joints of many of individuals who use Assistive Technology may lack integrity. These factors can spiral into what may be professionally referred to as "lack of motivation or compliance". But if you think about it, if you were dealing with any of the above, how motivated would you be?

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So following our discussion of the goals of seating and positioning and dangers if seating and positioning is poor, it should now be clear to you that there is a great role for seating and positioning in Assistive Technology. The main reason for this is that a proper seated position facilitates optimal use of existing motor skills to access Assistive Technology. And this is accomplished via a simple rule that we will refer to throughout the remainder of the module.

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This rule is simply stated as follows: proximal stability equals distal mobility.

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To dissect the meaning of this rule, a stable, well supported pelvis leads to optimal use of the extremities. As is clear from the photographs below, a stable, supported pelvis can be achieved in many different ways with varying types of equipment, rigid and soft supports, and human contact.

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This is really a developmental concept. Consider this- what do babies do first? They first learn to sit upright independently and then become adept with using their hands to explore their environment. Lets turn our attention to a 6 month old who will demonstrate this for us. He has just begun to achieve a stable sitting position on his own and, as a result, begins to turn pages in a book independently.

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Proximal Stability equals distal mobility is also a practical concept and there are manifestations of this in our daily lives. For example, if you had the choice, would you rather reel that big one, the real fighter, while seated and strapped into a large fishing boat or while standing in a canoe?

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While the notion that proximal stability equals distal mobility is well accepted clinically, more research is required to back up the concept. A few studies are listed here for your consideration but note that the need for evidence to support this rule still exists. The lack of research may be due to the difficulty involved in conducting studies to examine the concept.

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So when is seating and positioning important in Assistive Technology? It should be considered from the very beginning of assessment for Assistive Technology, since it enables motor skills which are essential to its use, whether the individual drives a power chair with hand movements or whether the individual uses an alphabet board with eye gaze. Assessment in proper seated position allows the assessor to get a true picture of the individual and their abilities. In the absence of proper seating and positioning, a skewed perspective of what the individual is really able to do may be obtained, and abilities that might be really useful from an Assistive Technology perspective could be over or under estimated.

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Often, seating and positioning is a component of the Assistive Technology system that is overlooked, potentially because those who are most responsible for the prescription of Assistive Technology may feel that addressing it would be outside their professional realm. So at this point you may be thinking, "Do I need to know this?"

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The answer is yes! A team approach has been emerging in Assistive Technology and in health care and education in general. This approach allows disciplines, such as occupational and physical therapy, speech language pathology, education, medicine et cetera to collaborate with each other and with individuals who use Assistive Technology and their families for the good of service provision. But in reality, with busy clinical and academic schedules professionals may not always be working with the individual at the same time. They may not even have the individual actively on their caseload at the same point in time. So, there is a realization that while professionals don't have to be specialists in each others areas, it is beneficial to be aware of, understand, and be familiar with the basics of each other's roles to ensure good communication and consequently, solid team function. Though typically taken care of by the physical therapist or occupational therapist, seating and positioning is a topic area where this is very evident. All Assistive Technology team members would benefit from familiarity with basic seating and positioning principles and strategies, in order to consider them from the very beginning of, and throughout, the Assistive Technology process. This will enable effective communication amongst team members, to ensure that seating and positioning issues are communicated effectively to the occupational therapist or physical therapist, that appropriate referrals are made as needed, and that temporary adaptations to an individual's seating system can be made to solve issues in the interim until a more permanent situation can be realized by specialists. So clearly, a

discussion of the role of team members in seating and positioning in Assistive Technology is warranted.

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The role of the Assistive Technology team member can be broken up into the three R's: recognition, resources, and referrals. One must first be able to recognize appropriate and inappropriate seating so an understanding of the basics is required. One must also recognize the abilities of the individual who uses Assistive Technology. Thus, there is a need to be well acquainted with all aspects of the individual, not just learning or language abilities. And, one must recognize their own professional boundaries and competencies to ensure safe effective service provision. It is also within the Assistive Technology team member role to access reliable resources to consult for assistance on seating and positioning issues, so knowing where to look and who to call for help is of importance. Finally, the Assistive Technology team member may be called upon to make referrals to other professionals when seating and positioning issues arise, so knowing how, where, and when to go about the referral process is also an asset. Let's talk about each of these roles in a little more detail.

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As part of the recognition role, members of the Assistive Technology team should have a basic understanding of what appropriate seating and positioning should look like. While this module will present some general rules and principles, it is important to recognize that appropriate seating and positioning will vary between individuals, between environments, and for different tasks. In fact, a single individual may have a variety of appropriate positions that they use for different activities in different settings. It is thus important to recognize these next points as guidelines rather than hard and fast rules.

In appropriate seating, one goal is to provide an appropriate base of support for the individual while still maintaining the ability to function. Base of support is the area formed by an object's contact points with the ground, including human contact points such as the feet. You can see from the pictures here that the individual on the left, leaning back in their chair on two points of contact, has a much smaller base of support than the individual on the right seated in the ladybug chair with widely spaced legs. Who do you think is more stable and able to complete functional tasks? However, it should be noted that a fully maximized base of support may not be particularly functional. If you were to lie spread eagle on the floor, your base of support would be very large and stable, but you are not likely to accomplish much from that position. So the trade off between stability and function should always be considered.

In general, it is also best to ensure that an individual is seated to directly face objects of interest. This is an anatomical principle, it'sthe way humans are built. Eyes see best straight in front and ears are built to funnel in sound for directly in front. These organs also come in pairs so you

might as well use both of them. Of course, this general principle may not hold true for someone with a visual or auditory impairment so it is necessary to consider each individual individually.

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When a person is sitting in a chair, the 90-90-90 approach should be considered. This rule refers to positioning the hips, knees and ankles at 90 degree angles. When the 90-90-90 rule is in effect, the pelvis is in a neutral position from which it can accomplish many movements that will be used in functional activities, which is really what the rule proximal stability equals distal mobility is all about. It is of course important to recognize that exceptions exist and the 90-90-90 rule does not necessarily work for everyone. There will be some individuals who will not be able to achieve this position and that is okay. Also, the rule is not meant to be adhered to rigidly. Obviously if someone is stabilized permanently in the 90-90-90 position, they are not accomplishing much functionally and other issues such as discomfort and contractures may arise. The rule is merely suggested as providing a good starting point from which to capitalize on the movements offered by the pelvis. Take a moment to shift in your chair to see if you can discover the 3 planes of pelvic movement.

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You should find that your pelvis can rotate from side to side, can tilt from front to back, and can tilt from side to side.

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In order to access all these movements, a neutral pelvis starting position is best so the old message that your teacher and parents used to give you “sit up straight” is often a good idea. To get a class of small children to achieve this position quickly, consider encouraging them to stamp their feet prior to seatwork. You’ll find that they will quickly end up in the 90-90-90 position.

Slide 43
While in a chair, all other joints should assume neutral positions as much as possible, meaning there should be no evidence of extreme flexion or extension, though there are of course some exceptions to allow the body to function. The elbow should be held somewhere around 90 degrees and the wrist should remain in neutral. The head and neck should be in midline, aligned directly on top of the shoulders. The chin should be slightly tucked to promote neutral head and neck position. The trunk should be erect and in contact with the chair back such that the back is displaying its natural curves which are illustrated in the picture for you. The person whose spine would exhibit these curves would be standing such that they face directly to your right. These curves should be present but not extreme.

Slide 44
This picture demonstrates the positioning principles that we have just discussed. Recall that there is always a tradeoff between neutral joint positioning and function, so a person should not be expected to maintain this position rigidly but use it as a default or starting position as much as possible.

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Of course, people, especially children are not always seated in chairs. While on the floor, many of the same principles apply as were discussed with regard to seating in a chair. However, a few other points deserve consideration. Positioning on the floor is likely to be more varied than in a chair, so a greater variety of positions may be observed. Generally, positions that look unnatural or strange, may not be particularly beneficial to the joints or particularly ideal for functional activity. An example of this is W-sitting, demonstrated in the photo on the right, which is debated in the literature. Clinical opinions are also varied on this position. While further evidence is required, it is likely that such positions are indicative of weakness and may actually represent problem-solving strategies that the individual has put in place to deal with this weakness. Notice how W-sitting increases base of support. However, there is some thought that W sitting in particular may be detrimental to the hips and knees. In any case, such positions do tend to limit functional capacity. For example, envision how difficult it would be for this little one to rotate the trunk or cross midline while in this W-sit. A position that enables those movements may better promote functional activity.

Slide 46
Other more functional floor positions may include cross-legged or side sitting. Strategies like providing structural support, such as the bed in the photograph to the right, or encouraging propping on upper extremities may also improve seated position and functional performance while on the floor. Consider modifying the type and duration of tasks if you have an individual who has limited endurance for a functional seated position. Also be sure that the Assistive Technology device is positioned in a location that is most easily accessible given the individual's abilities and in a location that captures their interest. And again, be sure that the position chosen allows for rotation of the body and the crossing of midline so that functional activities are easily manageable.

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So now that we've discussed what appropriate seating should generally look like, let's talk about how to promote it in individuals who use Assistive Technology.

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To achieve the best seated position, modifications can be made to the task or activity, the environment, and the person

Slide 49
Let's first consider modifications to the task or activity. Firstly, what the individual wants or needs to do on a daily basis must be identified. Then, the best way for the individual to go about these tasks and activities may be explored, taking into account how seating and positioning is involved.

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This may be best considered through an example. Seat work in Mrs. Smith's grade 4 class takes 30 minutes to complete. Sam has mild cerebral palsy and though he can sit in a classroom chair independently, he experiences fatigue and low muscle tone after about 20 minutes. Now think, how could the seatwork task be modified to ensure that Sam can remain appropriately seated to

complete it? Take a moment to jot down some ideas. Then, you can advance to the next slide and the webcast will resume.

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A quick task modification, breaking seatwork into two 15 minute sessions, could be trialed very easily with results that should be highly observable. The environment and Sam himself are left as is. The feasibility of such a modification must of course be considered on a case by case basis. But, remaining open to the possibility of task modifications may often provide the simplest, most efficient remedy to a seating situation. These possibilities should not be overlooked.

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Modifications can also be made to the environment and this is where equipment can be considered. Where possible, appropriately sized furniture should be used. The approach should be to fit the furniture to the individual rather than vice-versa. Remember the importance of ensuring an appropriate base of support, so a chair that allows the feet to meet the ground is of benefit. Now, sometimes in therapy or school settings this is not possible due to financial constraints. So a resourceful professional will think "What can I do to creatively solve these problems?" Take a moment to think about how you might adapt a basic chair to fit an individual who is exceptionally tall or exceptionally short before you flip manually to the next slide. Then the webcast will resume.

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Using strategies, such as footstools, booster seats, and pillows for propping may assist in maintaining an appropriate seated position in both chair and floor situations.

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At this point, you may be wondering whether it is within your professional role to make such modifications. Assistive Technology team members need to use their judgment in enacting these strategies. Whenever high or low muscle tone, sensory issues, reflexes, or distinct physical differences are present, consultation with or a referral to an occupational therapist or physical therapist is required. If seating and positioning intervention is to address simple concerns with the three main goals of comfort, safety and stability, and function then it may be appropriate to proceed. When making environmental modifications, an assistive technology team member should consider their own abilities and training. Whenever you feel outside your comfort zone, consult an occupational or physical therapist. Even if a small environmental modification such as propping with a pillow is effective and safe, the assistive technology team member should consider whether or not a more permanent solution will be required. If the issue causing the modification is likely to be long term, then consult an occupational or physical therapist.

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When you do have the option of selecting the furniture rather than modifying it, consider the following. All seats should have a comfortable and sturdy seat and back support and should allow the individual to maintain midline positioning and natural back curvature discussed previously. For individuals with good postural control, this sturdy seat and back may be all that is needed. Some individuals, such as those with spina bifida, muscular dystrophy, or cerebral palsy, or other conditions where trunk control and strength may be concerns, may require more

intervention. Height and angle adjustable arms may provide the support those with mild disabilities need to obtain and maintain an appropriate seated posture.
As well, adjustability of the seat and back height and angles may promote appropriate seated posture. Easy and efficient one handed adjustability makes it more likely that these features will be used to attain this. The furniture chosen for seating and positioning should also accommodate the Assistive Technology system. That is, the laptop that the child is using should fit on their desk and not on their laps, the communication board should be reachable beyond the pillow that is used for propping. Sometimes, tradeoffs will be necessary. For example, the ability to reach that communication board may be lessened by the pillow if the support it provides is required for safety. This must be considered and prioritized on a case by case basis. I'd love to provide you with a picture of an ideal chair and seating situation but unfortunately, one does not exist. Seating is such an individual concept that one chair definitely does not fit all. Instead of relying on the perfect piece of equipment, a familiarity with the principles of appropriate seating should drive any equipment selection.

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Occasionally, changes can be made to the person themselves through exercises and training for strength, flexibility, endurance, and range of motion. Assistive Technology team members should always consult with an occupational or physical therapist on these.

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Slide 58
In addition to recognizing appropriate and inappropriate seating and positioning, Assistive Technology team members should also be aware of what resources are available to them individuals who use Assistive Technology. Several different types of people may be excellent sources of information.

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Occupational and Physical Therapists both receive training in seating and positioning, so it is natural to consider consulting these professionals with questions or concerns. Remember that not all occupational and physical therapists go on to be highly trained specialists in seating and positioning and thus may or may not have skills to handle more complex cases. But at the very least they should be able to provide suggestions and guidance in simpler cases and should be able to redirect you to specialists should they feel the case is outside their level of professional competence.

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Previously involved professionals from all disciplines could also be consulted to determine what seated positions have previously been effective for the individual who uses Assistive Technology and what types of interventions have been successful or unsuccessful. This information may be useful, but should also be interpreted with caution since individual wants, needs, and abilities may have changed over time.

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Vendors may have excellent knowledge of the equipment that is available to promote appropriate seating. They may be particularly useful resources, especially if they have experience with the individual in question. Again, caution and critical thought are advised. Just because a vendor has a history of working with a family does not mean they automatically know the right answer or that their products are appropriate.

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Often the caregivers and the individual themselves are overlooked as sources of information, but their input is obviously invaluable and could ultimately determine the feasibility of any seating and positioning intervention.

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Resources may also be sought out online. However, much of the available web-based information is product oriented. It is often difficult to find information on the principles of basic seating and positioning. One website that does offer much information for consideration including lectures, links to the literature, and links to professional organizations is listed here.

Slide 64
If looking for printed resources, the best option is to look to the literature. Some useful resources from the occupational therapy literature are listed here for you. It should be noted however, that much of the literature is anecdotal or based on clinical convention, and not on quality research findings. Certainly, seating and positioning, particularly for individuals who use Assistive Technology, is a topic area that could benefit from further research.

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If a multidisciplinary team is involved, an occupational therapist or physical therapist may be monitoring the seating and positioning needs of the individual who uses Assistive Technology. However, in cases where such professionals are not directly or currently involved, a referral may be required to ensure that seating and positioning issues are properly addressed. The goals of seating and positioning that were identified at the beginning of the module have been discussed as a guide for determining if a referral to a professional with expertise should be initiated. These are reviewed on the slide for you. This does not mean that a referral is inappropriate when simply addressing the first three goals listed here. Professionals should consider referrals whenever they feel they are operating outside of their scope of practice or competence level. As well, if the long-term well being of the individual who uses AT is at all in doubt, then at the very least an occupational therapist or physical therapist should be consulted about making a referral

Slide 67
Deciding who should receive the referral can be a challenge. In any given workplace, roles may differ between professionals so an occupational therapist, physical therapist, or other specialist may be responsible for seating and positioning. Examining the workplace procedure and communicating with peers to find out who is the best professional to receive the referral is key in initiating services in a timely manner. As well, consulting IEP's, reports, and other documents

that should contain evidence of previous strategies, may be helpful. As always, don't forget to consult the client and caregivers themselves. Quite often they will be able to tell you what you need to know.

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In summary, here are some take home messages regarding seating and positioning for individuals who use Assistive Technology. Seating and positioning is important for these individuals from the very beginning and throughout the Assistive Technology process. In recalling that proximal stability equals distal mobility, it is easy to recognize how proper stabilization at the pelvis and trunk enables optimal motor skills at the extremities.

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The role for members of the Assistive Technology Team is to recall the three R's. The first R includes recognition of appropriate and inappropriate seating, which will vary by individual, by environment, and by task; recognition of the abilities of the individual; and recognition of professional abilities and boundaries of members of the Assistive Technology team.

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The second R encompasses familiarity with resources to consult for assistance with seating and positioning issues. Many resources exist, but due to their professional training, occupational and physical therapists may be particularly helpful.

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The third R refers to understanding when and how to make a referral. Referrals should be considered whenever there is doubt regarding the effectiveness of an individual's seating and positioning and its impact on their ability to use their Assistive Technology. Certainly, whenever impaired sensation, muscle tone issues, or pronounced physical differences exist, a referral to a professional expertise is imperative.

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The next few slides are a chance to solidify the knowledge presented in this module through case studies and related quiz questions. You will now need to advance these slides on your own to allow you to progress at your own pace. Now let's meet Jessica. Jessica is a young client with mild cerebral palsy and communication difficulties. She is in kindergarten, is short for her age, has low muscle tone, has a short attention span, and requires frequent breaks to get up and move around the room. In your role as an Assistive Technology team member, you are trying to encourage her to use a communication board at home. You also hope to support her in using this intervention at school in her typical classroom during circle time, while seated on the floor, and table time.

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Question 1. Take a few moments to consider the seating/positioning goals that might exist

for Jessica. Jot down a few ideas before advancing to the next slide. Remember the overall goals of seating and positioning introduced in the module!

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Some potential goals for Jessica could include the following: Improving Jessica's comfort by providing access to seated positions that maximize her attention span and her ability to meet classroom expectations; ensuring Jessica's safety and stability by providing access to appropriately sized furniture at home and school; and increasing Jessica's functional skills by implementing strategies and equipment that provide the least restrictive proximal physical support required for communication board use while in a chair and on the floor.

Slide 76
Question 2. Within your role as Assistive Technology team member, what strategies might you try with Jessica to improve her seating and positioning? Remember that you can make modifications at the task or activity, environment, and person level. Jot down some ideas before you advance to the next slide.

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Some possible task or activity modifications might include: Providing movement breaks for Jessica to get up and shift position; developing a signal for Jessica to use when she needs to get up and move around; regular monitoring of Jessica's muscle tone and fatigue; and the scheduling of appropriate tasks during times of low and high tone, for example, scheduling active tasks, such as communication board training, for periods when she maintains tone well and passive tasks for periods when her tone tends to be low.

Slide 78
Some possible environment modifications may include: Providing furniture that allows Jessica's feet to touch the ground or supporting her feet by using a device such as a foot stool; providing Jessica with a chair with arms that she can use for extra support; providing pillows and other floor level physical supports for sitting on the floor at home and during circle time; positioning the communication board to capture and maintain Jessica's interest; and ensuring that Jessica's place at the table and circle time is away from distractions.

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Some possible modifications at the person level include: Consultation with an occupational and physical therapist on core strengthening and endurance training; teaching Jessica proper positions for table-top and floor activities including propping; educating parents and school staff on the importance of seating and positioning for communication board use; and provide training on how to position Jessica for such activities.

These slides contain some possible solutions and are not meant to be exhaustive. You, or other members of your Assistive Technology team, may also have come up with other task or activity, environment, and person modifications that may be equally useful and appropriate. Consultation with an occupational therapist or physical therapist could verify these for you.

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Question 3. What resources might you consult to assist you with Jessica's seating and positioning. Write down a few ideas down and advance to the next slide.

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Though this may not be a complete list, seating and positioning resources may include: occupational and physical therapists who may or may not be part of the Assistive Technology team or who have worked with Jessica previously; most definitely Jessica and her parents who should have excellent knowledge of her routine and what strategies have been successfully or unsuccessfully tried in the past; and Jessica's teacher and classroom assistants who will be familiar with classroom needs and demands. The literature may also provide some suggestions on strategies to try.

Slide 82
Last one, Question 4. Would you consider a referral for seating and positioning issues in Jessica's case? Who would you address this referral to and what would you identify as specific concerns? Jot down some thoughts and advance to the next slide.

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Though an urgent referral does not seem required in Jessica's case, consider touching base with an occupational therapist or physical therapist on core strengthening and endurance training. These therapists may also have suggestions on equipment and handling techniques to promote appropriate seating and positioning and access to Jessica's communication board. As always, if you feel outside your professional realm, a referral could be considered

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Hopefully the information presented in this module will assist those in the role of Assistive Technology team member. Please find a slide of useful references at the conclusion of this presentation. Thank you for participating in "An Introduction to Seating and Positioning for Individuals Who Use Assistive Technology".

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