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musement Parks are a great way to spend some vacation time with friends and family! However, for people with disabilities it can be a frustrating challenge to navigate the park and follow their rules. To help alleviate some of the stress, it is recommended to do as much investigating as possible before you go.

All amusement parks. just like all recreational facilities in the United States, are mandated to comply with the Americans with Disabilities Act (ADA). "The ADA requires that newly

constructed and altered state and local government facilities, places of public accommodation and commercial facilities are readily accessible to and functional for individuals with disabilities." Despite the ADA policies, amusement parks must follow individual state laws and guidelines from the manufacturers of the rides. The manufacturers' guidelines set height requirements and may also mandate that medical devices (including prosthetic devices) be removed. Medical devices in some cases may "prevent safety restraints from working as designed, which can keep the rider from

maintaining proper riding posture and present a hazard to the individual rider."

To help ease some of the frustration, most parks have information located on their website under a tab titled "Plan Your Visit", "Guests with Disabilities", or "Frequently Asked Questions". It is recommended to check out the park's website before you go. Calling guest services is also another good option before you visit. This will help ensure you are properly informed. Proper planning and research can better prepare you for the day both mentally and physically, which will result in a more enjoyable experience!



Patient Profile

Paralympic Hopefuls Glicle for the Gold:

Sled Hockey Team Puts Kids with Disabilities on Ice!



The Hammerheads Sled Hoc team--ready for action!

mpowering kids with disabilities to participate in active sports and recreation is a great goal with multiple benefits. Introducing them to the fast-action, rapid-response, physically challenging, mentally stimulating and highly competitive team sport of sled hockey offers benefits--with a bullet!

"There's nothing like it!" says 18-year-old Miguel Jimenez-Vergara, Captain of the Philadelphia-based Hammerheads team, who is a double amputee. "Hockey is a fast sport, and as you improve, the game gets faster and even more fun."

Like other Hammerheads players, he's attracted by the opportunity to achieve speed and excitement unattainable off the ice, where standard wheelchairs, braces and other assistive devices increase mobility—but only to a much less thrilling degree than the ice allows.

"When I'm in my everyday wheelchair, I'm not as fast—I have to push a little harder just to keep up when they're jogging," Miguel explains. "So when you struggle with keeping up, sometimes being able to get in a racing chair or

sled and just GO! -and be faster than people—is a huge accomplishment. The fun part about hockey is that it's an uncontrolled arena. You can go anywhere in the ice rink and you can go as fast as possible; then when you get to the other side, you can just turn

around and keep going! Every aspect of the sport is based on speed--and that's something that I've always loved."

For the uninitiated, sled hockey is a sit-down version of ice

hockey, designed for players with any disability that prevents them from playing stand-up hockey. Amputees, those with spina bifida, spinal cord injuries and more, can participate while seated in a sled mounted and balanced on two ice skate blades.

Rules and objectives of the game are the same: it's played on a regulation size ice rink with standard size nets and puck, by two teams of six players including a goalie, who use checking and high-



Miguel Jimenez-Vergara loves fastaction sports--on and off the ice.





but as in the world at large and endeavors in general, only a few competitors have the potential to become stars—and the Hammerheads have two such stand-outs in their ranks. Both were nominated and invited to the Paralympic Team USA's development camp in July—part of a select cadre of 57 players aged 14-20 from across the country who participated in a week-long clinic in Amherst, New York, followed by tryouts

for the national team.

INTRODUCING MIGUEL JIMENEZ-VERGARA

Miguel was born without legs, and adopted and brought to the U.S. from Colombia when he was three years old. He graduated from

wheelchair when he was 5 or 6, and continued to grow into a series of smaller, lighter, and faster wheelchairs.

As his limb absence left no residual limbs, attempts to fit him with lower limb prostheses were unsuccessful. Otherwise healthy, fit and energetic, however, Miguel has tackled every disabled sport available to him: he started swimming at the YMCA when he was three, other sports when he was six, and began participating competitively in swimming, archery, track and field. Once he mastered hand cycling he added triathlons to his list. Volleyball, basketball, mono-skiing, Alpine skiing, have led him to his "next adventure"—he wants to try cross-country skiing soon.



Miguel launches a javelin at the USA Summer Nationals in July.

^{*} Sled hockey is a great form of exercise and fitness. It increases strength and coordination and also conditions the upper body. The balance used to propel, play the puck, and turn and stop gives arms, back and abdominal muscles a workout. Those who play regularly quickly notice an increase in overall strength and balance both on and off the ice. (According to Disabled Sports USA https://www.disabledsportsusa.org/sport/sled-hockey/



ABOUT THE HAMMERHEADS:

The Hammerheads Sled Hockey Association Inc. is a Philadelphia-based 501(c)(3) nonprofit organization which serves and empowers physically disabled youth by providing barrier-free access to the competitive sport of sled hockey. Its goal is to promote skill development, fitness, sportsmanship, and personal improvement within a team sport, enabling improved physical mobility and self-esteem.

Established in 1994, the organization was granted nonprofit status in 2006. The Hammerheads are members of the Delaware Valley Hockey League (DVHL), the only such junior league in the country, with a schedule of 12 competitive league games that keep them busy throughout the season (Sept.-Feb.), with other tournament and championship games bringing the total to 30 games.

Last season, the team won three tournaments and a string of 24 games, only to lose the final, national championship game in an April heartbreaker, 2 to 1.

The cost of outfitting a single player for participation in sled hockey is about \$2,400, including the sled, which usually costs between \$600 and \$900. All costs for equipment and ice time are covered by the Hammerheads association (HSHA), which is funded by grants and donations, as well as raffles and coin collecting by the kids.

Coach Ted Manko expresses concern for kids on the team who aren't able to play in games where travel is involved. "Children with disabilities don't necessarily come from well-off families," he points out. "Usually the same seven people travel to games; I'd like to be able to take some of the others to these tournaments to join the experience and have fun. If over the next year or two I can find more funding, then hopefully I can aet travel covered to some extent as well."

Manko, who had earned a scholarship based on high school hockey skills learned while playing with Division One hockey players later drafted into the NHL, began volunteering with the Hammerheads in 2011—shortly after his son Jeremy joined the team.

"I love ice hockey—I love being on the ice. And over the years, I think I've gotten better at coaching," he laughs.

Now, in addition to getting motivated and having fun, kids with true potential can develop basic hockey skills like breaking out of the zone, running drills, cycling, how to run an offense, and potentially compete at the national level under Manko's tutelage.

The Hammerheads Sled Hockey Association and its all-volunteer board members, coaches, and staff are committed to growing the sport and assisting new organizations to do the same. All funding and donations are used for the children's equipment, ice time, travel, and food, if applicable. Learn more at http://hammerheads.hockey/ , the Hammerheads Facebook page, or www.gofundme.com/hammerheadssled-hockey-team.



Jeremy takes a break between sports at the USA Summer Nationals in July.



Jeremy participated in the shotput event at the USA Summer Nationals.

interest him, so sled hockey wasn't even on his list of things to try—until an acquaintance showed up at the disability sports clinic Miguel had established at his high school as a freshman and brought his sled hockey teammates with him to try out new sports like volleyball and track.

Though reluctant at first, Miguel was encouraged by the team to give hockey a shot. His first attempt on the ice—crazily comedic, as he recalls it—was in a makeshift sled weighted with a 40-pound toolbox to compensate for his lack of leg weight to balance the sled:

"I'm skating around with a 40-pound toolbox on the front of my sled, and starting to skate pretty fast, but I didn't know how to stop, turn, or any of the rest. I was bouncing off walls and the toolbox kept flying off, and they kept duct taping it back on again—and I thought, 'Actually, this is kind of fun!'"

His subsequent attempts, fitted with more appropriately adapted equipment and accessories, led to a desire to improve that rapidly became a near-obsession. In less than a week, after only two practices, he was competing in a Hammerheads jersey—and he jokes exuberantly about those early learning experiences:

"Our team is the kind of the team where you learn by doing. I went to my second practice on a Saturday, and on Sunday I



Miguel (extreme right) competes in track events at the Summer National.



was in the game---and it was horrible! I was crashing into the other team, but I didn't get a single penalty, probably because I played so poorly that they just felt bad for me!" he laughs.

His improvement was so rapid that he began joining the adult team for practices, and less than six months after his first effort on the ice, he was invited to the national development camp for Paralympic hockey players in 2017, and again this year. If his improvement continues at its impressive pace, next year's invitation will likely earn him a place on the national development team for the 2022 Paralympics.

INTRODUCING JEREMY MANKO

At age 13, Jeremy Manko was officially underage for consideration for the clinic, but was close to the cut-off age of 14, and is an exceptionally strong, reactive player who relies on really good instincts, according to his father, team coach Ted Manko. "Typically you're looking at 17, 18, up to 20-year-olds in the tryouts, so it's tougher competition for the younger guys to get in."

Jeremy has spina bifida, and can't walk without the braces and crutches Lawall has been providing since he was a baby, but "put him in a sled and he has so much upper body strength that he's going to beat 90% of the able-bodied players he's playing," says Manko, explaining the Paralympic committee's exception for Jeremy.

A wheelchair makes things easier, so it accompanies Jeremy to sporting events, where he prefers to use it and crutches rather than get in and out of braces.

"He's a very instinctual kid, which is his greatest asset at hockey—he just goes! He knows where to be and what to do without thinking about it," Manko explains, contrasting Jeremy with his able-bodied older brother, who approaches challenges by carefully thinking everything through.

Jeremy began playing hockey when he was about six years old, and has grown and learned a lot in seven years of playing and developing a competitive edge, but still recognizes the need to work to improve his shooting the puck. "I've gotten better over the years, so it's gotten easier," he notes.

He cross-trains by also participating in track and field, a sport he discovered about a year ago, and practices at a track in New Jersey, calling his efforts "a bit of both—fun and work".

(Both Jeremy and Miguel also excel at those summer sports, as well—in the July USA Nationals in Indiana, Jeremy took top honors in archery in his age group and Miguel did the same,





setting a new record in the process. Their list of additional successes was incomplete at this writing.)

Home-schooled, he takes time off from study and sports for occasional fishing trips with his family.

GROWING A TEAM

Tasked with guiding and developing the skills and enjoyment of each member of the Hammerheads team—whose ages range from 7 to 18, and whose disability types, levels, and even combinations of disabilities vary widely—Coach Manko is often called upon to develop original and creative solutions.

"I might have a 15- or 16-year old with cerebral palsy and then a 12-year-old with spina bifida, who essentially has all the ability in the world when you put him in a sled, because he's got a lowlevel on his spine. It's all over the place. The balance that some of these kids have, especially on the blades, as they move tighter and get better sleds and more practice, is pretty incredible."

At the junior level, Manko's continuing challenge is adapting equipment for a different disability or combination of disabilities that he hasn't seen before. He described one child who has difficulty gripping the hockey sticks. The solution of taping his gloved hands to the sticks worked—but limited his ability to move his hands up and down the sticks to adjust for both shooting and propelling himself on the ice, which typically require different hand positions.

After consulting the rules and restrictions, Manko requested a customized stick with a different angle on the blade—allowing a long enough stick to skate with, while the different blade angle will hopefully allow the player to shoot the puck without shifting his grip.

"Each individual faces very different challenges," he explains. "In sled hockey—or any adaptive sport—you have to adapt the mechanics and technique of the sport for the athlete who's participating—and determine how they can get the most out of themselves and fully enjoy the sport."

According to Manko, the Hammerheads even enjoy a few games challenging able-bodied teams, since, playing from a sled, able-bodied players have no real advantage over a child with a disability. "We provide the sleds and they play our teams while trying to balance, maneuver, and shoot from their sleds. The challengers get an appreciation for it, and usually the kids love it! We have some kids who donate time and do community service with us. So we played their hockey teams, and those kids had a lot of fun being able to get on the ice on a sled, and at the same time, realizing 'Omigosh, this is so hard to do!'"

Much depends on the "fit" of the equipment to the player, Manko notes. The sleds, made by two resources (in Canada and Ohio), cost between \$600 and \$900. Each player is fitted based on leg length, size of the seat, and more. Even so, adjustments are often needed—to provide more support or a higher back for players who can't hold themselves upright in the seat, or support for knees or ankles that can't bend or straighten.

Jeremy's new sled requires only minor modifications; but where most players are belted into the sled with straps around their legs, Miguel's limb loss offers little that can be used to secure him in the seat via the usual methods.

"Miguel is very fast," Manko explained. "The puck is there, the game's going on, and he just GOES—like a ferret! He jumps right into it—so there's been a time or two when he's flown out of his seat! There's a collision and he winds up in one place and his sled in another, with Miguel saying, 'How the heck did that happen!?""

Juan Cave II, MSOP, Othotist/Prosthetist at Lawall, accepted the challenge of making the company's first custom-molded sled for Miguel, who had been a patient since shortly after his birth, when he was fitted with standing legs to put him at a normal height. Walking prostheses were not feasible for a child as active as Miguel.



"We had never done anything like this before, so it took some thought. We treated it as though Miguel had spinal issues—and created a kind of hybrid body jacket suited for a hip disarticulation (pelvis or hip-level amputation). Then we just modified it so he felt comfortable. He showed us the way he sat in his current sled, and we tried to mimic that by putting pressure on his lower back. We put extra padding in to protect the bottom half of his body, starting with soft, flexible material, and when that fit well, we built out a harder shell."

The resulting sled is completely custom, unlike sleds that are ordered and modified. "We had to develop everything from scratch, and it turned out very well," Cave believes. "This design we have is interchangeable. The bottoms of the devices are different, so we have to screw on a piece right now for the hockey; but we could easily make another one that's accommodative to a bike; we'd need to see it and make the adjustments. But right now we have a good socket, and we can build anything we want around it, for pretty much whatever he wants to do."

Cave's goal now is to get one last fitting and final adjustments completed for Miguel before he leaves for college.

"Lawall's has been awesome about it," said Miguel. "They brought me up to do a trial mold, and the mold itself was already amazing—it fit perfectly, and they still had another layer to go."

His former sled was an inch too big, and had a strap that tightened with a crank. "If I didn't crank that tight enough to restrict blood flow, I would fly out after a big hit." The new seat works using a sleeve or body jacket that fits snugly, with suction that only releases when he lies down, relaxes his back muscles, and tugs it gently from each side, then front and back, he explained.

STEPPING INTO LEADERSHIP

Miguel was appointed captain of the Hammerheads this year, and took seriously the responsibility of being a leader and role model for the younger kids on the team. He humbly admits that he didn't become captain because he was a good player—he became a good player because he was captain, and more aware of everything happening to his team on the ice.

Constantly pushing for self-improvement, he identifies his current personal challenge: "Last year everything I did was with my right hand. I wasn't even 100% on that side! When I was playing really well with my right hand early this year, I decided to start playing with my left hand. I saw all the kids being guarded on their right side, so nobody could play or score. So, my goal this year was to be 50% ambidextrous."

He has now learned to switch off and do some shooting with his left hand. "Learning to do things with my left hand a little better has actually been huge for me," he reports.

Does he have other interests? He and his mother, Tulia Jimenez-Vergara, are both too busy for anything but sled hockey, he laughs. "She works two jobs, as a teacher and also an administrator for an organization in Trenton—and you'd never expect her to be like a hockey mom, but she's SO invested in the game she can't stay seated—she loses it. I love it!"

A June 10, 2018, graduate of Lawrenceville, New Jersey's Notre Dame High School, not far from his home in Ewing Township, Miguel shares ambitious plans for advancing the awareness and enjoyment of sled





Lawall Welcomes Two New Staff Members Aboard

allory Lynn Feller, CPO, and Scott Geiss recently joined Lawall's professional staff at two of the company's locations. Both should be tremendous additions to the Lawall team.

Feller, a graduate of Penn State University, studied prosthetics and orthotics at the Northwestern University Prosthetics-Orthotics Center (NUPOC). She was attracted to the field because it offered a unique opportunity to help patients achieve a higher level of mobility and she finds her work extremely rewarding. Feller has been working in the O&P field for 7 years and has been focusing on pediatric cases for the past 4 years.

cott Geiss has joined the company as a sales representative. He will focus on helping Lawall practitioners continue to provide the highest level of care to their patients and referral sources. His expertise in customer service will be a great asset to the Lawall team.



hockey. He'll be attending the University of Arizona this fall on a track scholarship, and has already entered into preliminary discussions with the coaches.

"I'm on a mission to help them start a hockey program. It's one of the biggest schools in the U.S. for people with disabilities, and the coach told me they've been trying to start a sled hockey program for years, but never had enough people interested."

With a reported 160 disabled athletes registered, the University has a sizable pool of potential candidates, and Miguel points out that he only needs eight people to start a small club team, plus a couple of grants to fund equipment costs, so he'll be fiercely focused on recruitment in the immediate future, as he begins his freshman year at Arizona.

His crusading spirit, energy, and zeal make him an ideal trail blazer—not just for sled hockey, but for the advancement of organized disabled sports in general—and his ambitions are nationwide in scope:

"As the team gets a little bigger, we'll start going to tournaments and national championships; right now it's just about getting a little bit of funding, getting some sleds, getting more players interested. But if I could bring other people (to the University of Arizona) who are really good at hockey and really good at track, I could help build both programs.

"As my school grows, I can go somewhere else and try to

build their program. My dream is that by the time I'm 90 and not really able to do sports anymore, I can look at the U.S and say we have a collegiate league for disabled sports—because right now, we don't."

He points out that out of 4,140 colleges and universities in the U.S., only three have a track program, and only one, in New Hampshire, has a hockey team for the disabled. "That's really interesting, because there are so many disabled people in the U.S.—especially young people and veterans," Miguel observes.

Maybe, with Miguel actively on the case, that situation will change soon!

Although Miguel burst onto the sled hockey scene like a supernova, and is an up-and coming superstar in the Paralympic world right now, by all accounts, Jeremy at 13 is already a force to be reckoned with, continuing to hone skills and strengths beyond his years. They inspire his teammates and have already impressed the Paralympic selection crew.

"He's too young to make the team now, but by the next Olympics, in 2022, he'll be 17, and he'll get a real look-at then, to be on the team. He's very good!" Cave concurs.

With Miguel shaking things up nationally, and Jeremy keeping the pressure on his team here at home, it looks like the Hammerheads—and the sport of sled hockey—face an exciting future!





Fitting an Orthosis into a Shoe Can Be a Challenging Task

iguring out how to fit an orthosis into a shoe seems to be a common source of exasperation for patients. Certainly it can be a frustrating task, but knowing what to look for when selecting a shoe can be a great help.

It is important to note that the orthosis is providing the support needed and therefore the shoe's main purpose is to provide traction. That being said, an expensive shoe is not usually the best choice.

Here are some quick points highlighting what to look for when starting to select a shoe for an orthosis, as well as some tips for donning a shoe over an orthosis.



WHAT TO LOOK FOR IN A SHOE

- Removable insole
- Wide toe box
- Extended shoe tongue
- Shoe ties or straps

TIPS FOR DONNING A SHOE

- Use a fairly aggressive push
- Try to wiggle, rock and push the brace into the
- Select the smallest shoe that can accommodate
- If the brace slides in too easily, the shoe is probably too big
- Use a shoe horn to help slide the brace into the shoe and protect the heel counter
- Snipping a few threads that keeps the toe box closed can help the brace slide in better

SHOE BRANDS DESIGNED SPECIFICALLY TO ACCOMMODATE BRACES

- Answer2 by Apis Footwear
- Elites by Hatchbacks Footwear
- Markell Shoe Company

Lawall Named "Family Business of the Year" by the Philadelphia Inquirer

awall is excited to announce that Philadelphia Media Network, publisher of the Philadelphia Inquirer, Daily News and Philly.com has selected Lawall Prosthetic & Orthotic Services as a Family-Owned Business of the Year award winner.

As businesses continue to evolve, family values, integrity and traditions remain key components for achieving success. Awardees have been evaluated based on their overall business impact, community involvement, innovation, and growth.

"This is an honor that reflects all the hard work of Lawall's employees to fulfill our company's mission of improving the lives of our patients by providing compassionate care and the highest quality prosthetic and orthotic services," said Ann Roque, CPO. "By fulfilling this mission, we assist our patients in reaching their full potential and redefining what is possible!" 💓





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FLORIDA

Irlando

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Orlando (Satellite Office)

Nemours Children's Specialty Care 1717 S. Orange Avenue, 3rd Floor Orlando, FL 32806 Phone (407) 567-5190

Lake Mary (Satellite Office)

Nemours Children's Specialty Care 3300 W. Lake Mary Boulevard, Suite 100 Lake Mary, FL 32746 Phone (407) 567-5190

Melbourne (Satellite Office)

Nemours Children's Specialty Care 1270 N. Wickham Road, Suite 490 Melbourne, FL 32935 Phone (407) 567-5190

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