

Neurosurgeons Revolutionizing

Spine Surgery



THE AJANE PARCHMENT'S STORY

A Journey of Courage

Little girls often dream of running, jumping, and playing sports with the energy and joy of their peers.

They envision themselves as gymnasts, athletes, or stars of their school's volleyball and netball teams. But sometimes, dreams are interrupted by unexpected challenges. For one brave 11-year-old, a diagnosis of scoliosis a condition that severely curved her spine made those dreams feel out of reach.

The story of Ajanae Parchment's journey to surgery is one of resilience and determination. Despite the pain, frustration, and limitations, she continues to fight. Her mother, Sandra Aitcheson, a relentless advocate for her daughter, shared the obstacles they faced after being left in limbo earlier this year.

International Collaboration Enhances Spine Surgery in Jamaica

A recent collaboration between Jamaican neurosurgeons and an expert from Toronto Western Hospital led to a groundbreaking scoliosis surgery at the University Hospital of the West Indies (UHWI), marking a historic milestone in the institution's medical achievements. The surgery, performed on November 20, 2024, was led by Dr. Christopher Nielson, the current Head of the Spine Program and Fellowship at Toronto Western Hospital, and Dr. Peyton Lawrence, a Consultant Neurosurgeon at the University Hospital of the West Indies.



Dr. Nielson's Expertise and Role at Toronto Western Hospital



Dr. Nielson, who specializes in deformity and complex revision spine surgeries, emphasized that his practice primarily focuses on the adult population. His deep involvement in complex spine surgeries positions him as a key leader in the spine program at Toronto Western, which is affiliated with the University of Toronto. "I treat largely adult populations, with around two-thirds of my practice dedicated to complex spine surgery," explained Dr. Nielson. He is also responsible for the spine fellowship, ensuring that the next generation of spine surgeons receives cutting-edge training.

Dr. Lawrence's Journey of Training in Spine Surgery



Dr. Lawrence, a Consultant Neurosurgeon at the University Hospital of the West Indies, with dual fellowship training from Dalhousie University in Halifax and Toronto Western Hospital, specializes in minimally invasive surgery (MIS).

Dr. Lawrence credits Dr. Nielson, and Dr. Stephen Lewis as his two mentors who expanded his perspective, showing him how a neurosurgeon could successfully perform scoliosis surgery, a procedure that was traditionally carried out by orthopaedic surgeons.

Dr. Lawrence expressed his excitement upon returning to Jamaica in July. "Since coming back, I've received a warm welcome from peers and colleagues. I've already seen several patients, and the overall attitude has been very positive," Dr. Lawrence shared. Despite challenges in local infrastructure, he remains hopeful about the future. His main goal is to increase the hospital's surgical capacity by implementing efficient systems that could enable more surgeries, especially those requiring advanced techniques like MIS.



THE FUTURE

A Groundbreaking Spine Surgery by the Neurosurgery Team at the University Hospital of the West Indies.

WHAT IS SCOLIOSIS?

Scoliosis is a condition characterized by an abnormal curvature of the spine when viewed from the front or back, rather than the side. It often appears as an S-shaped or C-shaped curve and can result in noticeable imbalances when standing, making it difficult to maintain an upright posture. Normally, a healthy spine appears straight from the front view, but in scoliosis, this alignment is disrupted by the curvature.

Scoliosis, a debilitating spinal condition, can profoundly impact a young person's life in multiple ways. Beyond the physical curvature of the spine, it often affects self-image and confidence, particularly when the deformity is noticeable. For many young patients, the way they perceive themselves—and the way they believe their peers see them—becomes a significant emotional challenge.

In some cases, scoliosis might be subtle and hidden beneath clothing. However, for others, it causes visible changes to their appearance, as it did for Ajanae. Her mother, Sandra Aitcheson, described the profound emotional and physical toll the condition took on her daughter, whose scoliosis was severe and progressive.

The impact of scoliosis extends beyond self-esteem. Many patients experience chronic back pain, which can affect their daily comfort and quality of life. Additionally, the condition can impair physical movement, limiting a young person's ability to function and participate in normal activities. For Ajanae, the combination of these challenges and the looming possibility of her condition worsening without intervention—made surgery not just an option, but a necessity.

WHAT CAUSES SCOLIOSIS?

- **Congenital factors:** Some individuals are born with spinal irregularities that lead to scoliosis.
- **Neuromuscular conditions:** Disorders affecting the muscles and nerves, such as cerebral palsy or muscular dystrophy, can contribute to the development of scoliosis.
- **Adolescent growth spurts:** In many cases, scoliosis emerges during a child's growth spurt, with no clear underlying reason.

While the exact cause often remains unknown, scoliosis may sometimes be associated with other medical conditions or genetic factors.





THE WEIGHT OF SCOLIOSIS



Before surgery, scoliosis had a profound impact on Ajanae's daily life. "She felt pain most of the time," her mother explained, "especially if she stood too long walked too long sat too long, or even lay down too long." Simple activities became burdensome, and life on the third floor of their apartment building posed a constant challenge as she struggled with shortness of breath.

Scoliosis didn't just affect her physically, it also took a toll on her emotionally. At school, some children teased her, calling her hurtful names like "big back." While her close friends were supportive, others didn't understand her condition. Despite these challenges, Ajanae never let the pain or the teasing stop her from excelling in school.

A Second Chance: How Ajanae's Surgery Became a Reality:

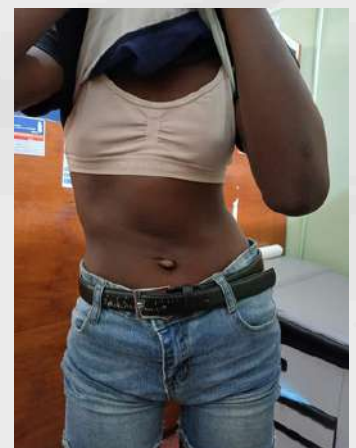
Ajanae's scoliosis progressed rapidly. "Between last year and this year, it went from 25 degrees to 84 degrees," her mother said. The brace prescribed by doctors failed to halt the curve's progression, leaving surgery as the only viable option. Initially, the family was told that surgery couldn't be performed until Ajanae turned 18 or finished maturing. However, the severity of her condition demanded immediate action.

Ajanae, a patient at the Bustamante Hospital for Children, was initially prepared for surgery but faced a significant setback when infrastructural issues at the hospital caused delays. With no clear timeline for the procedure and no promise of resolution, the family was left disappointed and uncertain. The news left both mother and daughter devastated. "We came out of the doctor's office crying," her mother recalled. This delay carried a profound impact, as Ajanae's condition caused severe cosmetic and functional impairments, affecting her ability to walk, sleep, and socialize with her peers.



Feeling disheartened, Sandra turned to the media to voice her concerns, expressing frustration over the lack of plans to address her daughter's urgent needs. It was through this effort that the case came to the attention of the University Hospital of the West Indies.

At the hospital's neurosurgery clinic, Ajanae's case was reviewed by a dedicated team led by Dr. Peyton Lawrence. After gaining the family's consent, the case was shared with Dr. Nielson, a renowned mentor in spinal surgery, who immediately offered his support. This collaborative effort set the wheels in motion, as the hospital leadership worked to ensure the surgery could be performed.



Facing the Big Day



For Ajanae and her mother, the days leading up to surgery were filled with mixed emotions. “She wanted to do the surgery and was hopeful,” her mother said. But the anticipation brought its share of nerves. “I was nervous, hopeful, frustrated, confused, happy, and sad all at once. I just wanted everything to work out.” Ajanae’s determination to move past the limitations scoliosis imposed fueled her courage. For her mother, it was about more than just fixing her daughter’s spine; it was about giving her the chance to live her dreams.



This pivotal moment marked a turning point for Ajanae and her family, giving them renewed hope and a step closer to a brighter future. Sandra’s account of her daughter’s resilience shines a light on the broader struggles faced by young people living with scoliosis. Her story is a powerful reminder of the physical, emotional, and social challenges that this condition can bring, as well as the hope and transformation that timely medical intervention can offer.



MISSION ACCOMPLISHED

**JAMAICA'S FIRST SCOLIOSIS
PROCEDURE PERFORMED BY
NEUROSURGEONS:
THE NEW APPROACH**



**INTRAOPERATIVE PICTURE OF AJANAE'S
SPINE AFTER CORRECTION**

Dr. Lawrence and Dr. Nielson successfully completed Jamaica's first scoliosis surgery led by a neurosurgical team which lasted over six hours. The surgery performed was a posterior-based scoliosis fraction procedure. While the surgery was groundbreaking locally, it shed light on infrastructural and logistical deficiencies, particularly in equipment availability. Dr. Nielson shared his observations: "We had to adapt to a setting that didn't have the usual tools I use in Toronto, such as the Smartlink Reduction Towers. The success of this surgery hinged on creativity and skill, but we might not be as fortunate next time."

This first procedure demonstrated the potential of blending visiting expertise with local resources, a departure from traditional U.S.-style missions where external teams bring their own resources. Dr. Lawrence proposed this model as a cost-effective template for future cases, emphasizing the need for consistent access to advanced equipment through partnerships with local and international suppliers.



COLLABORATION WITH TORONTO WESTERN AND THE NEED FOR IMPROVED EQUIPMENT

The visiting professor model used in this particular case, while not a traditional surgical mission, provided a unique opportunity for local teams to collaborate directly with Dr. Nielson. He was not only involved on the day of the surgery but participated in the pre-surgical planning, patient consultations, and post-operative care. "This wasn't a typical mission," Dr. Lawrence explained. "Dr. Nielson was deeply integrated into the entire process, making the collaboration more impactful."



However, Dr. Lawrence and his team encountered logistical challenges, particularly regarding the availability of specialized equipment, which prevented them from using Dr. Nielson's standard tools for scoliosis surgery. Despite these setbacks, they were able to perform the surgery using what was available, showcasing the local team's resourcefulness and the depth of expertise Dr. Nielson brought. "The surgery was complex, but with Dr. Nielson's skills and the support of the local team, we were able to get it done," Dr. Lawrence said.



INSTITUTIONAL AND INDUSTRY SUPPORT:

The successful scoliosis surgery was a result of not only the expertise of Dr. Nielson and Dr. Lawrence but also the contributions of various professionals and institutions. Dr. Nielson's local hosts, the Ministry of Health and Wellness (MOHW) Dr the hon Christopher Tufton, the office of the CEO at the University Hospital of the West Indies, Mr. Fitzgerald Mitchell, and Dr. Carl Bruce, Consultant Neurosurgeon and Medical Chief of Staff at the UHWI, played crucial roles in facilitating the visit. Mr. Kevin Hendrickson, owner of the Pegasus Hotel, also provided accommodations for Dr. Nielson during his stay in Jamaica. Local teams, the medical technologists from Medtronic contributed implants and equipment, while the operating room team, including Dr. Terry-Ann Russell, Sister Janice Smith, and the neurosurgical and nerve monitoring teams, worked seamlessly to ensure the procedure was carried out effectively

Dr. Lawrence took a moment to acknowledge the collaborative efforts that made the surgery possible, saying, "It was truly a team effort. From the MOHW, the office of the CEO to the OR staff, and the medical technologists, everyone played a part in bringing this case to reality."

BUILDING SURGICAL CAPACITY LOCALLY

Dr. Lawrence outlined ambitious plans to expand minimally invasive surgery (MIS) in Jamaica, aiming for greater efficiency and reduced patient recovery times. He highlighted his ongoing work with Enhanced Recovery After Surgery (ERAS) protocols, which have already demonstrated promising results. By implementing ERAS, patients experience rehabilitative physiotherapy, optimized perioperative medication regimens, and nutritional adjustments, enabling faster recovery and shorter hospital stays.

Dr. Lawrence shared his vision of introducing ambulatory spine surgeries to further improve patient turnover. He emphasized that reducing long hospital stays could significantly enhance the system's capacity for complex spine surgeries. This model has allowed him to perform even segmental fusion surgeries as day procedures or within a 72-hour inpatient window. This increased efficiency is vital for addressing Jamaica's long waiting lists for spinal surgeries.



Fostering International Partnerships

Dr. Lawrence emphasized engaging stakeholders, including the Ministry of Health and Wellness, to streamline planning and resource allocation.

“This case can serve as a template to establish a seamless workflow for complex spine surgeries. We need to examine all aspects; preoperative preparation, implant availability, and cost distribution—to refine this model for long-term success.”



The Role of Ambulatory Spine Surgery and ERAS Systems

To address the need for higher surgical turnover and reduced bed occupancy, Dr. Lawrence has introduced ambulatory spine surgery, a form of day surgery that allows patients to undergo procedures and return home the same day or after minimal recovery time. “By starting enhanced recovery systems, including rehabilitation and nutritional optimization, we’ve seen a quicker recovery process, allowing us to perform surgeries and discharge patients more efficiently,” He noted.

This system, called ERAS (Enhanced Recovery After Surgery), has proven effective, particularly for segmental fusion surgeries. Dr. Lawrence’s efforts to create a more streamlined and efficient process aim to prevent prolonged stays and optimize bed usage at the hospital. “The goal is to reduce waiting times and increase patient throughput without compromising the quality of care,” he added.

A CALL FOR STRATEGIC PARTNERSHIPS

Dr. Lawrence and Dr. Nielson are optimistic about the potential for expanding Minimally Invasive Surgery and scoliosis surgeries in Jamaica. He suggested formalizing collaborations between the University of Toronto and the University Hospital of the West Indies to secure funding and ensure logistical readiness for future cases. Dr. Lawrence envisions a stronger, more sustainable framework for these international collaborations. He emphasized engaging stakeholders, including the Ministry of Health and Wellness, to streamline planning and resource allocation. “This case can serve as a template to establish a seamless workflow for complex spine surgeries. “We’ve seen the benefits of bringing in expertise, but we need to make sure that the logistics are smooth and that we’re not dependent on last-minute arrangements.” We need to examine all aspects; preoperative preparation, implant availability, and cost distribution to refine this model for long-term success.”

One key issue that needs addressing is the availability of critical surgical equipment locally. Dr. Lawrence believes that to ensure the success of future surgeries, hospitals must have the right tools on hand. “We need to partner with local industries and ensure that essential equipment, like the Smartlink Reduction Towers, are available when we need them,” He emphasized. With a collaborative approach involving local and international stakeholders, they envision Jamaica becoming a regional leader in advanced spine surgery. The surgery exemplified how focused collaboration can drive institutional growth while highlighting areas for improvement.

The team is determined to build on this success, leveraging lessons learned to create a more robust and efficient surgical ecosystem for future generations of Jamaican patients. The goal is to establish a system where international experts can visit to share knowledge and perform surgeries with minimal disruption, leveraging local resources and expertise for optimal outcomes. “By working together, we can make these surgeries a routine part of our local practice,” Dr. Lawrence concluded.

Post-Surgery Recovery

Sandra Aitcheson expressed that recovery has been an uphill battle for Ajanae. "She is moody, bossy, and in pain; understandable for a young girl healing from major surgery." Her mother remains patient, helping her find ways to feel comfortable and addressing her every complaint.

Ms Aitcheson expressed that the care and support they received at the UHWI exceeded expectations. She further stated that surgical team, led by Dr. Nielson and Dr. Lawrence, was attentive and transparent, answering questions even before they were asked. "They were awesome," Ajanae's mother shared. "It was like they knew what I was thinking."

Although the first few days at the hospital were challenging due to communication gaps, the situation quickly improved. Once the staff aligned, the experience became seamless. "Everyone, from the nurses to the security guards, was amazing," she said.



AJANAЕ POSING BEFORE SURGERY

Hope for the Future - A mother's advocacy

Ajanae's journey highlighted the critical need for improved medical resources and awareness. Despite the challenges, the surgery promises a brighter future. "This will improve her self-esteem," her mother said. "Kids might still call her names now, but by the time she gets to high school, things will be better."

Sandra advocates for more surgical missions, noting that many children suffer in silence. "There are others out there who need help but don't know where to start," she said. "If I hadn't spoken up, Ajanae might still be waiting."



Ajanae joyfully strolling with playful strides after surgery

EMBRACING HOPE

for a

BRIGHTER TOMORROW



A NOTE OF APPRECIATION AND THE UHWI'S COMMITMENT TO EXCELLENCE IN HEALTHCARE

For Ajanae and her family, the experience at the UHWI has been life-changing. "I want to thank the doctors and nurses from the bottom of my heart," her mother said. "They have no idea what they've done for Ajanae. I pray God continues to bless them and give them the knowledge to keep helping others." Her advice to other parents navigating scoliosis? "Don't give up. Speak to your doctors, explore your options, and remember: life after surgery is possible. Your child can still have a full and happy life."

Ajanae's story is one of resilience, advocacy, and the power of community. With her surgery behind her, she can now focus on healing, dreaming, and becoming the active, confident girl she's always wanted to be.



Mr Fitzgerald Mitchell, CEO, reaffirmed that "the University Hospital of the West Indies remains steadfast in its commitment to delivering exceptional patients care to Jamaica and the entire region, ensuring the highest standards of health and well-being for all." He further highlighted the hospital's future plans aimed at achieving even greater excellence.



"There is hope for anyone battling spinal deformities. We encourage patients to reach out to the UHWI Neurosurgery Clinic for expert care and support. Together, we can work towards a healthier, pain-free future," added Dr Peyton Lawrence, Consultant Neurosurgeon at the University Hospital of the West Indies.



Dr Carl Bruce, Consultant Neurosurgeon and Medical Chief of Staff at the UHWI, emphasized great pride in the advancement of clinical services at the hospital and its commitment to continuous standards in patient care and promises that the University Hospital of the West Indies will remain at the forefront of healthcare excellence.