



Affidavit #1 D. Waitkus  
Sworn November \_\_\_\_, 2012  
No. S090663  
Vancouver Registry

**IN THE SUPREME COURT OF BRITISH COLUMBIA**

**BETWEEN:**

**CAMBIE SURGERIES CORPORATION, CHRIS CHIAVATTI by his litigation guardian  
RITA CHIAVATTI, MANDY MARTENS, KRYSTIANA CORRADO by her litigation  
guardian ANTONIO CORRADO and ERMA KRAHN**

**PLAINTIFFS**

**AND:**

**MEDICAL SERVICES COMMISSION OF BRITISH COLUMBIA, MINISTER OF  
HEALTH SERVICES OF BRITISH COLUMBIA AND ATTORNEY GENERAL OF  
BRITISH COLUMBIA**

**DEFENDANTS**

**AND:**

**SPECIALIST REFERRAL CLINIC (VANCOUVER) INC.**

**DEFENDANT BY COUNTERCLAIM**

**DUNCAN ETCHES, GLYN TOWNSON, THOMAS MACGREGOR, THE BRITISH  
COLUMBIA FRIENDS OF MEDICARE SOCIETY, CANADIAN DOCTORS FOR  
MEDICARE, MARIÉL SCHOOFF, DAPHNE LANG, JOYCE HAMER, MYRNA  
ALLISON, and CAROL WELCH**

**INTERVENERS**

**AFFIDAVIT #1 OF DEBBIE WAITKUS**

I, DEBBIE WAITKUS, full time caregiver for my son Walid Khalfallah, of 664 Morrison Avenue, Kelowna, British Columbia, MAKE OATH AND SAY AS FOLLOWS THAT:

1. I have personal knowledge of the facts deposed to herein except where those facts are stated to be based upon information and belief, which facts I believe to be true.
2. I make this affidavit in support of Cambie Surgeries Corporation's ("CSC") and Specialist Referral Clinic's ("SRC") opposition to the injunction sought by the Medical Services Commission (the "Commission") to prohibit SRC and CSC from providing

medical services in contravention of certain provisions of the *Medicare Protection Act* (the "*Act*") (specifically sections 17(1) and 18(3), which relate to billing practices for benefits under the *Act*) prior to a ruling on the constitutionality of these provisions.

3. I understand that if the injunction is granted, it will prevent individuals like my son from seeking treatment at CSC and SRC, and by extension to any other private facility or service in British Columbia, even when faced with unreasonable wait times in the public health care system.
4. I work as a nurse in British Columbia and am presently on long term leave. I am currently providing full time care for my son, Walid Khalfallah, who has recently become paraplegic. My son is currently 16 years of age.

#### **Walid's Initial Diagnosis**

5. In June 2004, my son Walid was diagnosed with high thoracic kyphosis by paediatric orthopaedic surgeon Dr. Stephen Tredwell, at the Children's and Woman's Health Centre of British Columbia. Walid was 8 years old at the time of initial diagnosis.
6. Kyphosis is a medical condition that involves abnormal curving of the spine. The condition results in deformed posture. Kyphosis varies in severity. Symptoms can range from pain and mobility restrictions to organ function inhibition (particularly respiratory and digestive) and in severe cases, to permanent damage to internal organs and the spinal cord.
7. Kyphosis is defined as a curvature of the spine measuring 50 degrees or greater on an X-ray. The normal spine can bend from 20 to 45 degrees of curvature in the upper back area. In rare instances, surgery is recommended when the curve measures 75 degrees or more on X-ray.
8. At the time of Walid's 2004 diagnosis, a clinical measurement of his kyphosis found a Cobb Angle curvature of 53 degrees.
9. Kyphosis can develop rapidly during periods of bone growth, such as puberty.
10. Walid's back changed dramatically months after his thirteenth birthday and an appointment with his paediatrician was immediately arranged.

#### **Wait Time for Surgical Consultation**

11. On June 26, 2009, Kelowna paediatrician Dr. Tom Warshawski, upon assessing Walid confirmed that there was a significant progression of Walid's upper thoracic kyphosis.

An urgent request for a consult with a paediatric orthopaedic surgeon at B.C. Children's hospital ("BCCH") was immediately made by Walid's paediatrician.

12. From the time that Dr. Tom Warshawski requested an urgent consult for Walid, to the first meeting with the surgeon, Dr. Reilly, I made numerous phone calls to Dr. Reilly's office requesting information regarding the booking of our appointment.
13. I frequently became frustrated during my calls to Dr. Reilly's office and repeatedly stressed that Walid's back condition was rapidly progressing and that he needed to be seen as soon as possible. It was suggested I ask my pediatrician to send a reassessment.
14. We returned to Walid's pediatrician's office in the spring of 2010. Dr. Warshawski sent another assessment along with x-rays to Dr. Reilly's office.
15. Later in June of 2010, we received a call that there was an appointment booked for August 3, 2010 with D. Reilly. During the intervening waiting period, Walid's curvature progressed and became markedly more obvious. I become increasingly concerned with how the wait could affect my son's health. Family and friends also shared their concern, which added to my level of anxiety.

#### **Wait Time for Surgery**

16. On August 3, 2010, Dr. Christopher Reilly at BCCH saw Walid for an orthopaedic surgery consultation.
17. When Dr. Reilly saw Walid's x-rays he said to me "why didn't you come sooner." I explained the many frustrating calls to his office. Dr. Reilly responded that he did not receive a reassessment from Dr. Warshawski nor did he know of any x-rays being forwarded. Thirteen months had passed by this point since the initial request in June, 2009 had been sent to Dr. Reilly by Dr. Warshawski which stated that Walid needed to be seen urgently.
18. In his written assessment, Dr. Reilly described Walid's condition as a "progressive dramatic high thoracic kyphosis" that had "distorted his trunk greatly". Dr. Reilly also measured Walid's spine curvature to be 100 degrees.
19. Dr. Reilly advised that surgical intervention was necessary as the severity of my son's kyphosis could result in damage to his internal organs and spinal cord. Dr. Reilly explained the nature of the surgery Walid required, including the risks involved. He stated it is a surgery no one wants to do but without it Walid's prognosis was poor.
20. Although only 10% of patients require surgery, spinal instrumentation and fusion for adolescent idiopathic scoliosis is the most common procedure done in paediatric

orthopaedics. While surgical outcomes are generally positive, the risk of adverse outcomes to the surgical intervention of kyphosis is higher for patients who are skeletally immature.

21. Dr. Reilly advised that Walid would need to have an MRI and CT scan appointment to accurately visualize his kyphosis in preparation for surgery and would be put on a waitlist for these diagnostic tests. I inquired as to the date of the surgery and was told by Dr. Reilly that the degree of Walid's curve warranted surgery now but that presently there was a two-year waitlist for surgery. I expressed concern especially since Walid had already waited thirteen months just for the consult.
22. Further, risk factors associated with surgical intervention become significantly higher as curvature increases. Therefore, if Walid was going to require surgical intervention, I wanted to access intervention as soon as possible. I inquired if there were any other hospitals with shorter waitlists but was told that Walid would be monitored closely and if at any time Dr. Reilly felt that he could no longer wait he would be taken off the two-year waitlist and put on an urgent priority list and the surgery would be expedited. Dr. Reilly said he wanted to assess Walid again in five months.
23. Dr. Reilly noted in his consult notes at this time that the lengthy wait list for surgery at BCCH would be problematic for Walid, as his kyphosis would progress 'dramatically' during the wait time.
24. Several months passed and I contacted Dr. Reilly's office to inquire about date for the five month follow up appointment. The office indicated that Walid was not booked for an appointment and would have to go back on a waitlist in spite of my indication that it was Dr. Reilly who requested the appointment, as he wanted to monitor my son closely while he was waiting for critical spine surgery. I panicked with the memory of the wait time for an appointment for a consultation still fresh in my memory. The idea of delaying Walid's treatment unnecessarily left me feeling distressed and afraid for Walid's health. I immediately went to see Walid's paediatrician and he agreed to call Dr. Reilly that week.
25. Walid was starting to complain of pain in his back and legs and the deformity was starting to develop beyond only his hunched back with a distinct barrel chest and forward thrusting head resulting. I asked Walid's paediatrician to ask Dr. Reilly about other options including whether he could obtain his surgery in another province or in the U.S. I expressed that I was prepared to do anything to ensure Walid was able to have his surgery as quickly as possible, including relocating or re-mortgaging my home if needed. I was told that Dr. Reilly felt that there were no alternative options, and that Walid would receive the best care at BCCH and to go anywhere else would mean we would have to start over again with the waiting process.
26. I was reassured that an appointment was arranged in February that regardless of the long waitlist Walid would receive the best care at BCCH.

27. I prepared a list of questions and concerns to address with Dr. Reilly at the consultation appointment in February and attended with a colleague with the aim of advocating for Walid to have expedited treatment.
28. On February 22, Walid attended a second consultation appointment with Dr. Reilly. Dr. Reilly found that Walid's spine curvature had progressed further to at least 110 degrees. After viewing Walid's x-rays taken that morning the surgeon immediately recognized that Walid's surgery needed to be done as soon as possible. Dr. Reilly told us that Walid could not remain on the waitlist due to his advanced condition and that his surgery would need to be expedited. We were also told that he would be put on an urgent priority list. We were told that we would be busy preparing for Walid's surgery in the summer with diagnostics and meetings with the surgical team. We were also advised that there would be supportive services provided, and that this was a serious surgery with high risks.
29. We were relieved that the urgency of Walid's situation was being recognized and that surgery was confirmed, yet concerned because of the high risks associated with the surgery taking place at such an advanced stage of curvature.
30. In a letter to Dr. Warshawski, dated February 22, 2011, Dr. Reilly summarized the severity of Walid's condition and indicated to Dr. Warshawski that he had booked Walid for the required surgical procedure.
31. While Dr. Reilly had indicated that an MRI and CT scan were needed following the August 2010 appointment, at the time of the February 22nd, 2011 appointment, no imaging studies had taken place.
32. By the time of the February 2011 consult, Walid's care by Dr. Reilly had been comprised of only x-rays and two short half hour consults.
33. While I left Dr. Reilly's office in February 2011 understanding that Walid's condition was extremely serious and that expedited surgery was necessary, I received no communication from Dr. Reilly's office over the following months. By April 2011, I began to call Dr. Reilly's office to ask for a confirmation on Walid's surgical date as well as to confirm an MRI or imaging diagnostics appointment. I suggested obtaining a private MRI however I was told that Dr. Reilly preferred to have the MRI conducted at BCCH.
34. By June 2011, 24 months had passed since Dr. Warshawski had requested an urgent surgical consultation for Walid, however, I had not received a confirmation for a surgical date. I had become extremely emotional due to anxiety and recall leaving a message at BCCH where I was crying so hard I could barely speak. A nurse returned my call and explained to me that she had reviewed the surgical slate for the summer, which listed all surgeries to September 2011, and Walid's name was not on the list.
35. When I asked how Walid could have been excluded from the surgical list that summer despite the urgency of his condition the nurse expressed that the wait-list situation in the BCCH orthopedic department was in a terrible state. She felt empathy for my situation

and advised that I advocate for my son, and provided me with the names of individuals that I could call in the hospital. These names included Patty Byron, the director of nursing, Suzanne Steenburgh, the program manager, and Dr. John Materson. She also indicated that other children on the list were waiting for urgent surgeries.

36. I was devastated to discover that Walid was not on the surgery list for the summer. The lack of communication by Dr. Reilly was contrary to the assurances I had been given that Walid's condition would be carefully monitored, and the denial of his inclusion on the surgical slate was in contradiction to the assurance that Walid would have his much needed surgery that summer. I felt as though I had let Walid down by trusting that the public health system would provide the care he needed.

### **Advocacy**

37. In 2009, BCCH adopted pan-Canadian wait time goals (known as benchmarks) for surgical procedures. As my son's kyphosis was diagnosed as 'likely to progress,' it is categorized as a Priority III surgery. The recommended wait time benchmark indicates that surgery for a patient such as Walid ought to be conducted within 6 weeks of the diagnosis. As of June 2011, Walid had been waiting for over 100 weeks.
38. With the knowledge that Walid was not slated for surgery for the rest of the summer, and with no assurance or confirmation of any surgical date in the future, I began to advocate for his surgery independently. I initiated a campaign called "No More Waiting for Walid" on Facebook. Other families with similar difficulties with wait times in British Columbia began to contact me and I began to realize how many people were affected by the systemic problems of wait times in our health care system.
39. A friend of mine John Dorig created a video of Walid to show the state of his condition and his resulting disablement, which we posted on line to spread awareness.
40. Fearing that continuing to wait for care in the public health care system in British Columbia would compound the risk factors and increase the chance of a negative outcome for surgery for Walid, I began to look into alternatives to obtaining medical care.
41. I contacted media, politicians, other advocacy groups, and Dr. Wright in Toronto who had done research associated with children waiting for surgery in Canada and also children waiting specifically for spinal surgery, hoping that someone could help secure a surgical date for Walid.
42. Shriners International ("Shriners") is a non-profit hospital group, which aims to offer services to children in need. After my father wrote a letter to the editor in our local paper that described our situation, Shriners International contacted me to inform us that timely surgical care could be provided to Walid in their hospital in Spokane, Washington. The treatment in the US would be free of cost with generous assistance with travel,

accommodation and food expenses. I began to look seriously into the option of having Walid's surgical procedure done at Shriners Hospital in the United States. I also read about another mother, Amy Donovan who had also launched an advocacy campaign for her son Donovan due to a failure of the public health care system in British Columbia to provide timely care to her son, and who had been offered assistance by Shriners International Hospital.

43. On July 6, 2011, I filed a complaint via telephone with the Patient Care Quality Office ("PCQO") at BCCH regarding the lengthy and unreasonable wait time my son had faced. This was a very emotional phone conversation. Just prior to calling, I had discovered that other timely options for surgery were available for Walid, such as Shriners Hospital in the US. I expressed my anger and disappointment in not having been apprised of other options, particularly as I had specifically asked if other options existed. I expressed my disillusionment in trusting that the public health care system would have provided necessary care for Walid in a timely manner, and the frustration and anguish in watching Walid's condition deteriorate and his risk factors increase. I expressed my total disgust with the lack of compassion from the BCCH throughout our long wait.
44. On July 15, 2011, the PCQO advised in a written response to my complaints that while the wait times were not 'ideal', they were on par with the wait times in other Canadian provinces. They also informed me of various other options at this point, which I had already begun to research independently.
45. By August 2011, a surgical date had still not been set for Walid. On August 3, 2011, I sent an email to the Honourable Michael de Jong, QC, the Minister of Health at the time, informing him that Walid had been waiting for a serious spine surgery, as well as MRI and CT scans, for over two years. I also noted that "I am disturbed by the degree to which waitlist have been normalized. Working as a nurse with the geriatric population, I see the negative effects of waitlists on a daily basis, but to now discover how many children are also waiting is shocking." I also appended a link to the video of Walid noted above. The Ministry of Health replied on August 17, 2011, stating that surgeries that are not immediately life threatening may be delayed. The email did not contain any indication of assistance.
46. On August 5, 2011, News Hour Top Story on Global TV featured Walid's story; "The long wait for surgery for a BC teenager". Another story entitled "Wait list worry" by Okanagan CHBC news aired the same night. In those stories health critic, Mike Farnworth requested that someone from BCCH call our family within the week as we had not heard from the Dr. Reilly for six months, since our February 2011 consult. A week later Dr. Reilly called our home and expressed that he was very serious about planning for Walid's surgery and was hoping that he would have a date in November. I expressed concern that he still had no confirmed date and reminded him of the false assurances he had made to us in the past. I did not feel I could trust his vague assurances that he planned to have Walid's surgery slated for November and informed him that we were considering options through Shriners International.

47. As there was no surgical date set for Walid within the public health care system in British Columbia, I decided to proceed with surgical treatment at the Spokane Shriners Hospital.
48. I contacted Dr. Reilly to confirm my plans to have Walid's surgery completed at Shriners Hospital. Despite the fact that Dr. Reilly did not have a confirmed surgical date to offer Walid, he advised that I should not proceed with surgery at the Shriners Hospital. Dr. Reilly told me that the Shriners Hospital did not possess the expertise to conduct the complex surgery that Walid required.
49. I was extremely nervous about the high risks involved in Walid's surgery, particularly as his progressed condition and curvature led to increased risks. Dr. Reilly's commentary made me feel more insecure about the possible outcomes of Walid's necessary surgical care. However, as Dr. Reilly could not offer a surgical date for Walid, I felt as though I did not have a choice but to proceed.
50. I informed Walid's consulting surgeon at Shriners Hospital about Dr. Reilly's commentary. He felt that Dr. Reilly's commentary was extremely unprofessional and potentially psychologically damaging to me. The physicians and surgeons at Shriners Hospital were extremely reassuring and supportive. While I understood the risks involved in surgical intervention at this late a date for Walid, I also knew that his surgery was necessary. I was aware that the longer we waited, the greater the risk increased. I consented to admit Walid at Shriners Hospital for treatment.

#### **Walid's surgery**

51. After consenting to admit Walid at Shriners hospital in Spokane, Washington for treatment, I began to prepare for our departure in September for our initial diagnostic appointments.
52. Just prior to leaving for the US, Dr. Reilly contacted me to inform me that he could confirm a surgical date for November 27, 2011. I told Dr. Reilly that we had been scheduled for traction therapy at Shriners and expressed that we had received more care at Spokane in one afternoon than in the past two years through BCCH. I told him that after the poor quality of care and the extended wait at BCCH that we were declining his offer for November surgical intervention.
53. Walid's diagnostics were completed in the US in October 2011 and he was admitted to Shriners Hospital in Spokane, Washington on November 1, 2011. Due to the extreme curvature of his spine, which was measured at 127 degrees at his admission, surgery could not commence without preliminary traction.
54. Walid began a ten-week session of traction therapy. The goal of the therapy was to maximize Walid's curve correction in his upcoming surgery by preparing his now rigid curve and accompanying deformed body for manipulation. During this therapy any further advancement of the kyphosis was halted.

55. On January 9, 2012, Walid was ready for and received surgery for his kyphosis at the Shriners Hospital in Spokane.
56. By the date of Walid's surgery, Walid had been waiting for surgery over 30 months since his original urgent consult to the BCCH. An option for surgery at BCCH for Nov. 27, 2011 which would have had Walid's wait slightly reduced to 29 months was declined so that Walid could benefit from the treatment of traction offered by the Spokane Shriners hospital. An x-ray taken prior to the traction showed that his spine had progressed to a curvature of 127 degrees, which put him in a high-risk category for adverse outcomes of surgery. Traction was not offered at BCCH.
57. Walid experienced significant complications from the surgery, and as a result, now is a paraplegic with a complete spinal cord injury at level T8.

#### **Patient Care Quality Review Board Report**

58. On October 21, 2011, I filed a formal complaint with the Provincial Health Services Patient Care Quality Review Boards ("Review Board"). The Review Board evaluated information put forward by both the Provincial Health Services Authority ("PHSA") and myself. In a letter addressed to me, dated May 1, 2012, after reviewing Walid's case, the Review Board concluded that "Walid did not receive quality care." Furthermore, the Review Board determined that the extensive wait for medically necessary care let Walid's condition "unnecessarily deteriorate and increased the risk to his health." Attached as Exhibit "A" is a copy of the letter dated May 1, 2012.
59. The Review Board highlighted that:

"The curvature of Walid's spine was estimated at 53 degrees in 2004 by Dr. Tredwell. By the time Walid was seen by Dr. Reilly on August 3, 2010, the curvature had progressed to 100 degrees. Walid was assessed again on February 22, 2011 and the curvature of his spine was measured by Dr. Reilly at approximately 110 degrees. According to x-rays taken in September 2011, the curvature of Walid's spine had progressed to 127 degrees."
60. The Review Board found that:

"The time interval between the June 26, 2009 urgent referral from Dr. Warshawski and the August 3, 2010, consultation with Dr. Reilly was an unreasonable delay, especially considering Walid's age and developmental status."
61. The Review Board noted that Dr. Reilly stated in his Consultation Report of August 3, 2010, that the hospitals wait list was going to be a problem for Walid as his condition was going to progress. Further, "following the consultation on February 22, 2011, notes were made to book surgery for the patient in the summer. This did not occur and no explanation was provided."

62. The Review Board also noted that, as stated in the article *Empirically derived maximal acceptable wait time for surgery to treat adolescent idiopathic scoliosis* from the Canadian Medical Association Journal on June 14, 2011 “the highest risks of adverse events due to prolonged wait times occurred in patients who were skeletally immature and had larger curvatures of the spine.”
63. The review board recommended that PHSA investigate why a 30 month delay in treatment occurred, and noted:
- “According to Paediatric Canadian Access Targets for Surgery (“P-CATS”) adopted in December 2009, by BCCH, kyphosis that is likely to progress is listed as a Priority III surgery. The P-CATS target time for surgery for a priority III surgery is within six weeks. As of September, 2011, when the decision was made to pursue care from Shriners Hospital in Spokane, Walid had been waiting for 13 months with no definitive date set for his surgery. The time from the urgent referral by the paediatrician, Dr. Warshawski, was in fact 27 months.”
64. The Review Board highlighted a number of failures in responsibility, all of which are specified in the May 1, 2012. Notably, the Review Board found that:
- (a) Patient Health Service Authority failed to meet the Paediatric Canadian Access Targets for Surgery
  - (b) PHSA failed to follow provincial and internal policies on flagging surgical cases that have been waiting for excessive periods
  - (c) PHSA and Dr. Reilly’s office failed to attend to their responsibilities to the above as per the Ministry of Health’s Surgical Waitlist Management Policy
65. The Review Board was further ‘concerned that Dr. Reilly indicated . . . that Shriners Hospital in Spokane . . . did not have the expertise to perform the surgery’. Furthermore, the Review Board was concerned with the lack of communication between the health care system and myself, as well as a failure to proactively provide information on alternative options for care, as information regarding alternative options for timely care were only provided following a directed request from myself.
66. Based on the major transgressions described above, the Review Board provided five recommendations to the PHSA and the Minister of Health to facilitate the management and follow up of the surgical wait times, with the aim to improve accountability and provision of patient-centered care. These recommendations are enumerated in the May 1, 2012, letter from the Review Board.
67. In a letter addressed to the Ministry of Health and the Review Board, dated June 12, 2012, PHSA declared that it accepted all of the recommendations of the Review Boards,

and responded with an outline of how to implement the recommendations. The Review Board provided PHSA's response to me in a letter dated June 14, 2012. Attached as Exhibit "B" is a copy of the letter of June 14, 2012, and the enclosed letter dated June 12, 2012.

68. Similarly, the Ministry of Health responded to the recommendations through a letter dated October 5, 2012.
69. Furthermore, BC Health Minister Dr. Margaret MacDiarmid issued a formal apology for the surgery delays that Walid faced, stating "I am most sincerely sorry not only for this family but for any family that waits this long" and "We never want people to wait this length of time for important surgeries." CBC published the apology on October 12, 2012. Attached as Exhibit "C" is a copy of the apology.

#### **Delays increased the risk of an adverse outcome for Walid**

70. A study conducted by Dr. James Wright entitled "*Empirically derived maximal acceptable wait time for surgery to treat adolescent idiopathic scoliosis*" found that "prolonged wait times increase the probability of adverse events for the surgical treatment of adolescent idiopathic scoliosis. A maximal acceptable wait time based on minimizing the risk of additional surgery due to progression of curvature was three months...the highest risks of adverse events due to prolonged wait times occurred in patients who were skeletally immature and had larger curvatures of the spine. Patients with these risks should be prioritized and monitored for progression of curvature while waiting for surgery." Attached as Exhibit "D" is a copy of the study.
71. Walid's delayed treatment resulted in an increased risk of a negative outcome for Walid's treatment.
72. While I first felt hopeful that the recommendations provided by the Review Board could help to prevent similar delays in the treatment of other children in British Columbia in the future, I was shocked and disillusioned to discover that a similar review had taken place two years prior to Walid's treatment review by the same Review Board. Donna Webb had requested a review two years prior after her son's health and condition was also allowed to deteriorate while he was on an extended wait-list for scoliosis treatment with Dr. Reilly at BCCH. Ms. Webb had similarly started a campaign for her son, which also resulted in having her son's surgery performed at Shriners International. The Review Board made recommendations regarding the unreasonable delay in the treatment of Ms. Webb's son, however these recommendations did not prevent my son from similarly experiencing an unreasonable delay two years later.
73. I have come to the conclusion that recommendations are not enough. The public health care system in British Columbia is failing citizens by forcing them to endure unreasonable wait times for much needed consultations and treatments. There is a

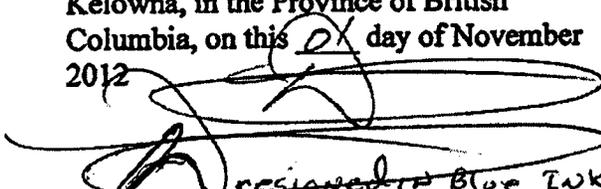
serious crisis with extended wait-times in our health care system that needs to be addressed. While standardized target periods have been created for paediatric care in Canada, a recent report entitled "Waiting for children's surgery in Canada" indicates that "Overall, 27% of paediatric patients across Canada received surgery beyond their standardized target period for access to surgery." Attached as Exhibit "E" is a copy of the report. This amounts to thousands of children waiting for treatment beyond recommended benchmarks each year. This is unacceptable.

74. I understand that the Medical Services Commission has helped to navigate children and adults into alternative care options, including the private system, to expedite treatments that could not be provided in as timely a manner in the public health care system. I do not understand why Walid would not have been considered for expedited alternative treatment options. I also do not feel that it is justified that preferred beneficiaries are able to access timely treatment while other citizens are made to wait to their detriment in public system wait lists. The empty rhetoric of the public health care system has made me reconsider my stance on the government administration of health care, and my considerations of the place and value of the private health care sector.

75. Where the public health care system cannot provide access to timely consultations, imaging diagnostics and treatments, it should at least permit alternative options to access timely care for patients. I understand that the current legislation bars alternative options to the public system, even when there is unacceptable and even life threatening delays. I further understand that through this application for an injunction, the government is asking the court to further reduce the availability of other options to the public system, without any assurance that the public system will be improved.

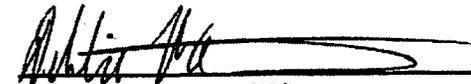
76. I would have taken advantage of private services for Walid in British Columbia, such as private MRI's and private consultations, to ensure more timely healthcare, as well as private insurance to pay for the services, if I were allowed to do so. I believe it is my fundamental human right to have the choice to access the health care options of my choosing

SWORN BEFORE ME in the City of Kelowna, in the Province of British Columbia, on this 21 day of November 2012

  
A Commissioner for taking affidavits in the Province of British Columbia

**DOUGLAS M. FRANKS**  
Notary Public  
212 - 1930 Cooper Road  
KELOWNA, B.C. V1Y 9K5  
Tel: (800) 808-8200

HBdocs - 135832

  
**DEBBIE WAITKUS**  
BC DL# 6957872

NO ADVICE REQUESTED NOR GIVEN  
ATTESTED ONLY BUT NOT DRAWN



Patient Care Quality Review Boards

File No. 11-0072

May 1, 2012

Debbie Waitkus
664 Morrison Ave
Kelowna BC V1Y 5E3
Dear Ms. Waitkus

Dear Ms. Waitkus

Re: Walid Khalfallah - Review Board Decision

The Provincial Health Services Patient Care Quality Review Board (the Board) has completed our review of your complaint to the Provincial Health Services Authority (PHSA) regarding the following matter.

In June 2004, your son Walid Khalfallah, was seen in consultation by the Children's and Woman's Health Centre of British Columbia and diagnosed with a high thoracic kyphosis clinically measuring 53 degrees but estimated by the hospital radiologist to be 75 to 80 degrees. On June 26, 2009, Kelowna paediatrician, Dr. Tom Warshawski, noting significant progressing kyphosis requested an urgent consultation for Walid, then age thirteen years, and he was seen in consultation August 3, 2010, by Dr. Christopher Reilly, orthopaedic surgeon at BC Children's Hospital (BCCH). At that consultation, Dr. Reilly explained that Walid would require complex surgical procedures to correct his kyphosis before the condition caused significant damage to his internal organs or his spinal cord.

Walid was seen again by Dr. Reilly in February 2011. According to information you provided, you left that appointment expecting to be contacted in the summer with Walid's surgery date. In June, you were informed by the surgeon's office that Walid had not been booked for surgery and it was unknown when the surgery would take place. Frustrated with the wait time and lack of response from BCCH, you launched an awareness campaign about the wait time for receiving surgical treatment from BCCH.

You informed the Board that Walid underwent surgery on January 9, 2012, at the Shriners Hospital in Spokane, Washington. Walid suffered serious complications from the surgery which included paralysis below the level of his navel. Walid was transferred to a facility in Sacramento, California for spinal cord injury rehabilitation.

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This is Exhibit A referred to in the affidavit of Debbie Waitkus sworn before me at Kelowna this 01 day of Nov 2012

Signature of Douglas M. Franks
A Commissioner for taking Affidavits for British Columbia
DOUGLAS M. FRANKS
Notary Public
212 - 1980 Cooper Road
KELOWNA, B.C. V1Y 9K5
Tel: (250) 865-8268

You believe that the time spent waiting for treatment at BCCH could have had a significant impact on Walid's condition. Despite receiving treatment elsewhere, you are concerned about the lengthy wait times for surgery at BCCH. You are also concerned that you were not provided with information about alternative options for treatment, such as the Shriners Hospital, at an earlier date.

The PHSA Patient Care Quality Office (PCQO) provided you with three responses to your concerns and arranged a meeting with the Vice-President of Patient Care Services to further discuss your complaint. The PCQO explained that while actions are being taken to reduce the wait times for complex surgeries, there are multiple factors that contribute to wait times.

The Board reviewed and considered all the information provided by both you and the health authority, and based our decision on the information in the attached list of documents.

The Board found that Walid did not receive quality care. The delay in treatment allowed Walid's condition to unnecessarily deteriorate and increased the risk to his health.

The curvature of Walid's spine was estimated at 53 degrees in 2004 by Dr. Tredwell. By the time Walid was seen by Dr. Reilly on August 3, 2010, the curvature had progressed to 100 degrees. Walid was assessed again on February 22, 2011, and the curvature of his spine was measured by Dr. Reilly at approximately 110 degrees. According to x-rays taken in September 2011, the curvature of Walid's spine had progressed to 127 degrees.

The Board found that the time interval between the June 26, 2009, urgent referral from Dr. Warshawski and the August 3, 2010, consultation with Dr. Reilly was an unreasonable delay, especially considering Walid's age and developmental status. Dr. Reilly noted in his Consultation Report of August 3, 2010:

"Certainly our wait list is going to be a problem for this boy because his kyphosis will progress drastically as we wait."

Following the consultation on February 22, 2011, notes were made to book surgery for the patient in the summer. This did not occur and no explanation was provided.

The Board noted that, as stated in the article *Empirically derived maximal acceptable wait time for surgery to treat adolescent idiopathic scoliosis* from the Canadian Medical Association Journal on June 14, 2011, "the highest risks of adverse events due to prolonged wait times occurred in patients who were skeletally immature and had larger curvatures of the spine."

The Board recommended that the health authority promptly identify and implement practical solutions to delays in paediatric orthopaedic referrals and surgery scheduling, so as to meet the accountabilities as outlined in the Ministry of Health's Surgical Wait List Management Policy and that it investigate and explain why a 30 month delay in treatment for this patient occurred.

The Board found that the health authority did not meet the Paediatric Canadian Access Targets for Surgery (P-CATS) and did not follow provincial and health authority policy.

According to the P-CATS targets, adopted in December 2009, by BCCH, kyphosis that is likely to progress is listed as a Priority III surgery. The P-CATS target time for surgery for a Priority III surgery is within six weeks. As of September, 2011, when the decision was made to pursue care from the Shriners Hospital in Spokane, Walid had been waiting for 13 months with no definitive date set for his surgery. The time from the urgent referral by the paediatrician, Dr. Warshawski, was in fact 27 months. It was nearly four months later that Walid received his surgery from Shriners Hospital.

The Board found that the health authority and the surgeon's office did not meet the accountabilities laid out in the Ministry of Health's Surgical Waitlist Management Policy. Specifically, the following sections:

***2.0 The following cases are to be flagged for possible temporary/permanent removal from HA waitlists:***

***2.1 Patient has waited longer than 1 year***

***2.2 Patient has waited longer than established national and provincial benchmarks/targets (or other regional benchmarks/targets)***

***5.0 Key HA responsibilities include:***

***5.1 Conducting regular waitlist reviews to flag patient cases as per the relevant policy (i.e. those waiting longer than one year, established benchmark, etc.). The operating room booking office (OR Booking) will then send a request to the surgeon's office to review the flagged cases and communicate any changes within four weeks of the surgeon office's receipt of information***

***5.2 Following up with physicians' offices to confirm receipt of information***

***5.3 Contacting patients directly to confirm their waitlist status if/when required***

***5.4 Notifying surgeon offices and returning booking packages of all patients removed from the waitlist***

**6.0 Key surgeon/surgeon's office responsibilities include:**

**6.1 Reviewing the list of flagged cases from OR Booking**

**6.2 Continually monitoring their waitlists and notifying OR Booking of any patients that fall into categories 3.0 or 4.0.**

**6.3 Contacting and/or reassessing patients to confirm their status**

**6.4 Returning list of flagged cases to OR Booking office within 4 weeks of confirmation of their receipt of information indicating their plan to address the situation. Their response to OR Booking will include either:**

**6.4.1 When the surgeon office would like the patient booked for surgery;  
or**

**6.4.2 Why the patient's case should be either cancelled or suspended**

**ACCOUNTABILITY**

*Health authorities must ensure that all wait time data are being managed in accordance with the policy and standards outlined in this communiqué. The Ministry of Health Services will review each HA's implementation plan and monitor compliance with this policy within its overall performance monitoring plan.*

The Board recommended that the Minister of Health ensure that BCCH is managing its surgical waitlist in accordance with the accountabilities of the Ministry of Health in the Surgical Waitlist Management Policy.

The Board also recommended that the health authority ensure that BC Children's Hospital review the P-CATS versus current service delivery in orthopaedic surgery. If BCCH is unable to meet the targeted timelines, then as part of patient-centered care, a process to refer the patient to another suitable service provider who can provide care in a timely manner should be established.

The Board found that there was inadequate communication with the patient and family in regard to surgery wait times and other options. Dr. Reilly was aware in August 2010, that surgical delay would result in adverse health consequences for Walid. The request for urgent consultation from Dr. Warshawski in 2009 should have triggered a more prompt response. The Board is of the opinion that the hospital should have a better method for scheduling urgent consultations. In instances where it is not able to provide acceptable and prompt care the hospital should have a discussion with the family regarding alternative options and locations for treatment of a patient.

The Board was concerned that Dr. Reilly indicated to you that Shriners Hospital in Spokane (one of the facilities that the health authority stated they would recommend to patients as an alternative) did not have the expertise to perform the surgery. As an aspect of its role as our provincial centre of excellence for child care, it would be appropriate for BCCH to provide recommended timely alternative care options in cases where it was not able to provide timely needed care. This is a clear responsibility of a patient-centered, ethical health care system.

The Board noted that Dr. Reilly indicated to you that a surgical date was being planned for November 2011. However, the Board was not provided with evidence that a surgical date was planned or scheduled for Walid in November 2011 at BCCH.

The BCCH and the health authority did not provide alternative treatment recommendations to you at the time of service, including other facilities in or out of province through the Medical Services Commission (MSC). The PCQO provided options to you in the response letter of July 15, 2011, after you had specifically asked the health authority to provide that information to families.

The Board is aware that the MSC has the authority under the *Medicare Protection Act* "to give prior written approval for elective (non-emergency) medically necessary out of country medical care." While appropriate medical treatment options are available in BC and Canada, there are provisions in the act to provide funding in the event that a wait-list "delay in the provision of medical care available in BC or elsewhere in Canada can be shown to be immediately life-threatening or result in medically significant irreversible tissue damage."

The Board recommended that the health authority review the current communication process regarding paediatric surgery information for patients and families and amend it so as to ensure that they are fully aware of all options for treatment during any wait time for surgery.

The Board found the initial PCQO response to you on July 15, 2011 to be primarily comprised of standardized messaging lacking in empathy for the extensive wait that Walid had already experienced at the time of the letter. The Board did note however that the PCQO was very responsive to you and provided you with prompt responses to your correspondence.

Therefore, the Board recommended that the health authority arrange a meeting with you, at your convenience, to discuss what they could have done differently and better, including in terms of patient care, advice, referral information and service, and provide you with details regarding actions they have taken toward improvements in the system, including performance measures and oversight.

**The Board recognizes the challenges this situation has placed on Walid and your family. The Board would like to commend you for your advocacy regarding this matter.**

**This concludes our review of this matter. We appreciate the opportunity to respond to your concerns. Please note that PHSA is required to respond to the Board's recommendations within 30 business days from the date of this letter, and is also required to follow up with you. It is our hope that the conclusion of this process will bring you a satisfactory resolution to your concerns.**

**Yours truly,**



**Dr. John H. Chritchley, Chair  
Provincial Health Services Patient Care Quality Review Board**

**pc: Honourable Michael de Jong, Minister of Health, Q.C.  
Patient Care Quality Office, Provincial Health Services Authority**

Relevant Documents

- **Complaint Case Report, submitted by the Secretariat**
- **Addendum to Complaint Case Report**
  - **Letter from Complainant to Secretariat, dated March 16, 2012**
  - **Correspondence between PCQO and Secretariat, dated March 16, 2012**
- **Email from Complainant to RBO, dated March 1, 2012**
- **CLIFF Log Notes, dated October 21, 2011 – February 17, 2012**
- **Note from Dr. Reilly, dated September 19, 2011**
- **PCQO Email to Complainant – Links to wait time guidelines/best practices, dated July 20, 2011**
- **Complainant Email to PCQO, dated July 19, 2011**
- **Letter from PCQO to Complainant, dated July 15, 2011**
- **Article from the *Canadian Medical Association Journal*, dated June 14, 2011**
- **Consultation Report with Dr. Reilly, dated February 22, 2011**
- **Letter from Dr. Reilly to Dr. Warshawski, dated February 22, 2011**
- **CWHCBC Ambulatory Registration Record, February 22, 2011**
- **CWHCBC Ambulatory Registration Record, August 3, 2010**
- **Consultation Report with Dr. Reilly, dated August 3, 2010**
- **Ministry of Health Policy Communiqué – *Surgical Waitlist Management Policy*, dated July 20, 2009**
- **Referral Letter from Dr. Warshawski to BC Children’s Hospital, dated June 26, 2009**
- **Paediatric Canadian Access Targets for Surgery (P-CATS)**
- **Medical Services Commission – Out of Province and Out of Country Medical Care Guidelines**

## Patient Care Quality Office

4th Floor, Room F404  
4500 Oak Street  
Vancouver, BC  
Canada V6H 3N1

**Patient Care Quality Office Toll Free# 1-888-875-3256  
Fax# 604-875-3813**

<http://www.phsa.ca>

Reference No. 11-0072

June 14, 2012

Debbie Waitkus  
664 Morrison Avenue  
Kelowna, BC  
V1Y 5E3

Dear Debbie,

As you know the Patient Care Quality Review Board has completed its review of the care quality issues pertaining to BC Children's Hospital and your son Walid Khalfallah. Recommendations were sent to the Provincial Health Services Authority and to yourself upon the review completion. The Health Authority has responded to each of the recommendations put forward. As part of that process we share the responses to the recommendations to the patient or the complainant acting as the patient's representative. Debbie I am enclosing the response to the recommendations in its entirety for your awareness and for your records.

Debbie I would also like to invite you to contact our office at anytime if you do elect to have further discussions with BC Children's Hospital Executive to hear about changes or actions as a result of this review. We would be pleased to assist in arranging a meeting and understand that BC Children's Hospital Executive would welcome that opportunity.

I would like to share that there is sincere regret for the wait for surgery Walid faced and for the outcome Walid has experienced. It is our hope that Walid is moving positively forward in his rehabilitation and care.

Most sincerely,



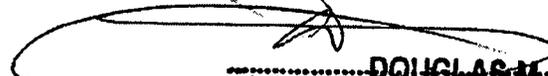
**Mary MacKillop, BA, MA**  
Director, Patient Care Quality Office  
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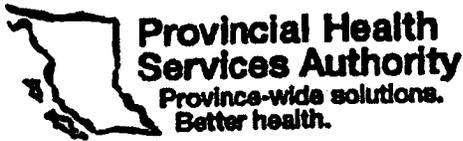
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778-968-0029 (mobile)

☎ Patient Care Quality Office Toll Free #: 1-888-875-3256  
✉ [MMacKillop@phsa.ca](mailto:MMacKillop@phsa.ca)  
<http://www.phsa.ca>

This is Exhibit B referred to in the  
affidavit of Debbie Waitkus  
sworn before me at Kelowna  
this 21 day of Nov 2012

  
**DOUGLAS M. FRANKS**  
A Commissioner for Taking Affidavits  
for British Columbia  
212 - 1980 Cooper Road  
KELOWNA, B.C. V1Y 8K5  
Tel: (888) 668-8288

EX B.



G. (Wynne) Powell  
CHAIR

Lynda Cranston  
PRESIDENT AND CEO

Reference No. 11-0072

June 12, 2012

Hon. Michael de Jong, Minister  
Ministry of Health  
1515 Blanshard Street  
Victoria, BC  
V8W 3C8

Dr. John Chritchley, Chair  
Patient Care Quality Review Board Secretariat  
PO Box, 9843  
Victoria BC  
V8W 9P1

Dear Minister de Jong and Dr. Chritchley,

Thank you for taking the time to review and provide recommendations pertaining to patient Walid Khalifallah and complainant Debbie Waitkus. This is a very difficult situation and the review board process provides opportunity for the Health Authority to consider quality improvements as a direct result of any complaint file review. Please note that this correspondence as required responds specifically to the Review Board's recommendations and not on the commentary in the decision letters.

With respect to the specific recommendations:

1. That the Provincial Health Services Authority promptly identify and implement practical solutions to delays in paediatric orthopaedic referrals and surgery scheduling, so as to meet the accountabilities as outlined in the Ministry of Health's Surgical Wait List Management Policy and that it investigate and explain why a 30 month delay in treatment for this patient occurred.

**Accepted as written**

BC Children's Hospital (BCCH) leadership reviews and assesses surgical waitlists monthly. Post review the Executive ensures the division leads review the updated reports. In response to the recommendation, beyond the existing process, a review and assessment including a chart audit of patients currently on spine wait lists is occurring with the view to care alternatives to reduce overall wait time. Considerations include care alternatives for less complex idiopathic patients and considerations for young adults (15 and older) who may be appropriate for transition to an adult care setting.

BC Children's Hospital is also in the final process of negotiation stages with a paediatric orthopaedic surgeon who specializes in spinal deformities with a goal to have him commence his position in the fall of 2012. This surgeon will work with the existing team with a focus on addressing the longest waiting patients as an additional step towards immediate wait list reductions.

Utilizing the Ministry of Health's Surgical Wait List Management Policy as a framework, BCCH has drafted an agency specific policy and procedural guideline that will ensure consistent management and follow up specific to paediatric surgical patient wait times and wait list management.

In respect to the specific delay Walid and his mother faced there were two critical delay elements. The initial delay was 13 months and was in regards to Walid's wait from referral by his pediatrician to his consultation with an orthopedic surgeon at BCCH. This is a direct result of the limited number of orthopedic specialists with the specific skills that were needed in BC at the time of Walid's wait.

The second delay at BCCH was wait time for a sedated MRI scan that he needed prior to surgery. Due to Walid's complex care needs, a high quality scan would require Walid to be sedated. BCCH Radiology faces challenges in meeting the current needs. Within the overall efforts to reduce surgical wait time, key factors contributing to delays include competing surgical service needs, limited specialists with the specific skills, requirement for specialized support services including radiology and anaesthesiology, the length of the procedure itself, post op care including intensive care and the varied therapies required after procedure. Hence all these factors need to be addressed.

An important note to be made is a surgery date in November of 2011 was offered to Walid but at that point we understand a commitment by the family to an alternate procedure in Spokane WA was made for January 2012. There is no definitive way to know if Walid's procedure had been done at BCCH prior to the procedure in Washington would this have yielded a different outcome.

**Anticipated Completion: Assessment has commenced-completion August 2012.**

2. That the Provincial Health Services Authority review the current communications process regarding paediatric surgery information for patients and families and amend it so as to ensure that they are fully aware of all options for treatment during any wait time for surgery.

**Accepted as written**

BC Children's Hospital has undertaken the development of a communication plan specific to wait times and paediatric orthopedic surgery. The communication plan will reflect the input from all stakeholders as well as Communication specialists. The end product, for families and patients, may include care options and alternatives such as out of province and out of country care. A directory of possible resources will be added such as potential financial supports, travel, charitable partners and accommodation options that may be available to families.

The communication plan will identify how and when information is best shared with families and patients. Strategies will be determined as to how best to relay information and the design effective for brochures/pamphlets and on line/links. In developing this policy the stakeholders and Communication specialists will also determine how information may be provided to patients and their families about the possible risks associated with electing to withdraw a patient from care at BC Children's Hospital.

**Anticipated completion: August 2012**

3. That the Provincial Health Services Authority arrange a meeting with the complainant, at her convenience, to discuss what they could have done differently and better, including in terms of patient care, advice, referral information and service and provide her with details regarding actions they have taken towards improvements in the system, including performance measures and oversight.

**Accepted as written**

The Patient Care Quality Office will be communicating with Ms. Waitkus in order for her to be aware of our practice changes. At that time we will also invite her for discussions.

**Anticipated Completion:** Letter from the PCQO will go to Ms. Waitkus on June 14, 2012.

4. That the Provincial Health Services Authority ensures that BC Children's Hospital review the Paediatric Canadian Access Targets for Surgery (P-CATS) versus current service delivery in orthopaedic surgery. If BC Children's Hospital is unable to meet the targeted timelines, then as part of a patient-centred care a process to refer patients to another suitable service provider who can provide care in a timely manner should be established.

**Accepted as written**

Each period members of the BCCH leadership team will continue to review the waitlist reports and P-CATS Targets and cross reference those targets with current paediatric wait lists. Review with applicable Division heads will occur to provide detailed reports and to develop appropriate action plans for patients who fall outside of those targets.

**Anticipated Completion:** Process exists now -- will continue.

Finally, I want to assure you that we take this issue seriously and greatly regret this delay in Wald's care. We are sincerely committed to continuing our efforts to reduce wait times.

Thank you for your consideration,



G. W (Wynne) Powell FCGA, D.Tech (Hon)  
Board Chair

/cp



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# Paralyzed B.C. teen gets apology for long surgery wait

## 'I am most sincerely sorry,' says Health Minister Margaret MacDiarmid, about 27-month delay

Posted: Oct 12, 2012 4:13 PM ET  
Last Updated: Oct 12, 2012 11:46 PM ET



Walid Khalfallah's spinal-curvature condition steadily worsened as he waited for surgery. Family photo

This is Exhibit C referred to in the affidavit of Debbie Waitkus sworn before me at Kelowna this 01 day of Nov 2012

  
A Commissioner for taking Affidavits for British Columbia

**DOUGLAS M. FRANKS**  
Notary Public  
212 - 1980 Cooper Road  
KELOWNA, B.C. V1Y 0K5  
Tel: (804) 865-8288

B.C.'s health minister is apologizing for surgery delays that contributed to an Okanagan teenager being left paralyzed from the waist down.

"I am most sincerely sorry not only for this family but for any family that waits this long," said Health Minister Dr. Margaret MacDiarmid.

"When I look around the province I see really, an excellent health-care system but I know that from time to time, we do let people down and of course that's not what we want to have happen."

A report by the B.C. Patient Care Quality Review Board says the Provincial Health Services Authority failed two Okanagan teens who desperately needed spinal surgery.

It focused primarily on the case of Walid Khalfallah, of Kelowna, who was diagnosed in 2004 with a spinal-curvature condition called kyphosis.

In 2009, when Khalfallah was 13, his doctor insisted the boy's condition required immediate attention but a series of delays pushed his surgery date back by 27 months.

Rather than risk further delays, Khalfallah's family gave up on B.C.'s health system and sought help at the Shriners' Hospital in Spokane, Wash.

But by then, Khalfallah's curvature had more than doubled and he had to spend 10 weeks in traction before undergoing a 10-hour operation that left him paraplegic.

"We never want people to wait this length of time for important surgeries," said MacDiarmid, adding that since 2009, B.C. Children's Hospital has more than doubled the number of spinal surgeries it performs every year.

## Hospital hired new surgeon

In 2011-12, the hospital performed 187 spinal surgeries, up from 85 in 2008-09, according to Tex Kisson, the hospital's vice-president for medical affairs.

**"We never want people to wait this length of time"—Margaret MacDiarmid, B.C. health minister**

Kisson says the key to increasing the hospital's capacity was its success in recruiting a new spinal surgeon.

"These surgeons are really challenging to recruit. They are few and far between because there are few in number in North America," he said.

The wait list for spinal surgeries at B.C. Children's Hospital dropped from 189 people in October 2011 to 133 people this past June, but Kisson says wait lists are not a good indicator of the progress being made.

"A wait list is in constant flux. There's some children who as they get worse will be reprioritized to be operated on earlier, and there are some children who may not need the surgery, so they would be off the wait list," he said.

"So the idea of the wait list by itself is not the issue, the issue is how much throughput we can get, and that's what we're working on."

## Corrections and Clarifications

- Walid Kalfallah spent 10 weeks in traction prior to his surgery. An earlier version of the story said he spent 10 months in traction. Oct. 12, 2012 | 3 p.m. PT

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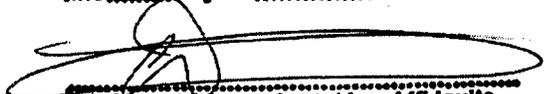
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This is Exhibit D referred to in the  
affidavit of Debbie Waitkus  
sworn before me at Kelowna  
this 01 day of Nov 2012

  
A Commissioner for taking Affidavits  
for British Columbia

**DOUGLAS M. FRANKS**  
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25

## Empirically derived maximal acceptable wait time for surgery to treat adolescent idiopathic scoliosis

Henry Ahn MD, Hans Kreder MD MPH, Nizar Mahomed MD ScD MPH, Dorcas Beaton PhD, James G. Wright MD MPH

See related research article by Wright and colleagues at [www.cmaj.ca/cgi/doi/10.1503/cmaj.101530](http://www.cmaj.ca/cgi/doi/10.1503/cmaj.101530).

### ABSTRACT

**Background:** Prioritizing patients using empirically derived access targets can help to ensure high-quality care. Adolescent scoliosis can worsen while patients wait for treatment, increasing the risk of adverse events. Our objective was to determine an empirically derived access target for scoliosis surgery and to compare this with consensus-based targets

**Methods:** Two-hundred sixteen sequential patients receiving surgery for adolescent idiopathic scoliosis were included in the study. The main outcome was need for additional surgery. Logistic regression modeling was used to evaluate the relation between surgical wait times and adverse events and  $\chi^2$  analysis was used as the primary analysis for the main outcome.

**Results:** Of the 88 patients who waited longer than six months for surgery, 13 (14.8%) needed additional surgery due to progression of curvature versus 1.6% (2 of 128 patients) who waited less than six months for surgery ( $\chi^2$  analysis,  $p = 0.0001$ ). Patients who waited longer than six months for surgery had greater progression of curvature, longer sur-

geries and longer stays in hospital. These patients also had less surgical correction than patients who waited less than six months for surgery (Wilcoxon–Mann–Whitney test,  $p = 0.011$ ). All patients requiring additional surgeries waited longer than three months for their initial surgery. A receiver–operator characteristic curve also suggested a three-month wait as an access target. The adjusted odds ratio for an adverse event for each additional 90 days of waiting from time of consent was 1.81 (95% confidence interval 1.34–2.44). The adjusted odds ratio increased with skeletal immaturity and with the size of the spinal curvature at the time of consent.

**Interpretation:** A prolonged wait for surgery increased the risk of additional surgical procedures and other adverse events. An empirically derived access target of three months for surgery to treat adolescent idiopathic scoliosis could potentially eliminate the need for additional surgery by reducing progression of curvature. This is a shorter access target than the six months determined by expert consensus.

Competing interests: None declared.

This article has been peer reviewed.

Correspondence to:  
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CMAJ 2011. DOI:10.1503/  
[cmaj.101511](http://cmaj.101511)

Adolescent idiopathic scoliosis effects just over 2% of females aged 12–14 years.<sup>1,2</sup> Although only 10% of patients require surgery, spinal instrumentation and fusion for adolescent idiopathic scoliosis is the most common procedure done in pediatric orthopaedics.<sup>4</sup> Patients who wait too long for scoliosis surgery may require additional surgery such as anterior release to achieve satisfactory correction of the spinal curvature. These patients may also need longer surgeries and may be at increased risk of complications such as increased blood loss, neurologic deficits or inadequate correction of the curvature.<sup>4–6</sup> Furthermore, as seen in other studies of wait times, patients and families can feel anxiety and prolonged suffering while waiting for treatment, which can negatively impact the quality of care.<sup>15–19</sup> Programs such as the Canadian Pediatric Surgical Wait Times Project have deter-

mined a maximal acceptable wait time for adolescent scoliosis through expert consensus (similar to how other surgical wait time targets have been determined).<sup>20</sup> Surprisingly, there has been little or no attention given to developing evidence-based access targets or maximal acceptable wait times for most treatments.<sup>21</sup> The purpose of this study was to determine the maximal acceptable wait time for surgical correction of adolescent idiopathic scoliosis using an empirically based approach to minimize the possibility of adverse events related to progression of curvature.

### Methods

#### Population

We used a sequential retrospective cohort of all 216 (176 girls, 40 boys) patients with adolescent idiopathic scoliosis who received surgery at the

Hospital for Sick Children in Toronto, Ontario (November 1997 to August 2005). Patients were identified using the Canadian Institute for Health Information Discharge Abstract Database and the hospital's registry of surgical procedures. Patients were included in the cohort if they had received a diagnosis of adolescent idiopathic scoliosis and if they were 11–17 years of age. Patients with neuromuscular, congenital, syndromic, juvenile or infantile idiopathic scoliosis were excluded. Approval was obtained from the Research Ethics Board before the beginning of the study.

Patients received segmental spinal fixation posteriorly with hooks, with or without pedicle screws, or anteriorly with a screw and rod construct (Universal Spine System, Synthes, West Chester, Pennsylvania, and Moss Miami, Depuy Spine, Warsaw, Indiana). Surgeries were done by four spinal surgeons using a standardized technique. All patients had curvatures with a Cobb angle measurement of at least 40°. The Cobb angle measures the angle in degrees between the top and bottom vertebrae in a spinal curvature on an anteroposterior radiograph of the spine. During the study period, curvatures with a Cobb angle of 40°–70° received either a

posterior or anterior approach based on the pattern of the curvature; curvatures with a Cobb angle of 70°–90° received surgical correction in two stages — an anterior release, followed by a posterior approach one to two weeks later; curvatures greater than 90° were similarly staged, but halofemoral traction with weights was applied during the two-week interval between procedures.

The surgical wait period, defined by the Ontario Ministry of Health as the interval between the day that both the surgeon and the patient agreed to surgical treatment and the day of surgery,<sup>23</sup> was determined from the clinic and operative records. When the surgery was staged, the wait time was calculated relative to the first operation.

All patients had three-foot standing anteroposterior lateral radiographs taken just before the decision was made to proceed with surgery. Another set of radiographs was taken immediately before surgery. After surgery, a three-foot standing anteroposterior lateral radiograph was taken to assess correction of the curvature. Measurements were taken from the radiographs without chart abstraction.

The main outcome of the study was the need for additional surgery. This need was assessed

Table 1: Baseline characteristics and surgical data for the overall study population and the two surgical wait-time groups

Characteristic	Overall group n = 216	< 6 months surgical wait time n = 128	≥ 6 months surgical wait time n = 88	p value
Sex, no. (%)				0.92*
Female	176 (81.5)	104 (81.2)	72 (81.8)	
Male	40 (18.5)	24 (18.8)	16 (18.2)	
Median age at first consultation, yr (IQR)	13.2 (12.2–14.5)	13.5 (12.4–14.6)	13.1 (11.8–14.4)	0.98†
Median age of menarche, yr (IQR)	12 (12–13)	12 (12–13)	12 (12–13)	0.66†
Median wait time for consultation, d (IQR)	75 (47–111)	81 (47–109)	66 (47–114)	0.19†
Median maximal Cobb angle at first consultation, degrees (IQR)	55 (46–62)	54 (46–62)	55 (47–72)	0.13†
Median wait time for surgery, d (IQR)	149 (92–228)	103 (69–142)	247 (217–308)	
Median age of patients at surgery, yr (IQR)	14.5 (13.4–15.9)	14.3 (13.3–15.8)	14.7 (13.4–16.1)	0.98†
Median Risser score when appointment for surgery was made (IQR)	2 (0–3)	2 (0–3)	2 (0–3)	0.18†
Median maximal Cobb angle when appointment for surgery was made, degrees (IQR)	60 (53–65)	58 (52–65)	60 (54–66)	0.79†
Median maximal Cobb angle at time of surgery, degrees (IQR)	63 (55–70)	60 (53–67)	68 (57–78)	0.07†
Median progression of curvature between time when appointment for surgery was made and time of surgery, degrees (IQR)	3 (0–10)	1 (0–5)	9 (2–15)	< 0.001†
Median BMI (IQR)	20.5 (18–21.6)	19.8 (17.3–21.8)	20.6 (18.0–21.6)	0.72†

Notes: BMI = body mass index, IQR = interquartile range.  
\* $\chi^2$  test.  
†Wilcoxon–Mann–Whitney test.

using a comparison between the initial plan made when surgery was mutually agreed to and the surgery the patient actually received. The secondary outcomes were the following adverse events: more than 10° of progression of curvature<sup>23</sup> (defined as the difference between the Cobb angles in the radiograph taken at the time surgery was scheduled and the radiograph taken just before surgery), less than 50% correction of the curvature (defined as the percent improvement in the Cobb angle from the postoperative radiograph and the radiograph taken just before surgery), the need for a blood transfusion, prolonged surgery (defined as the highest 10th percentile in duration between the beginning and the end of surgery, excluding anesthesia time) and perioperative neurologic injury.

#### Statistical analysis

For the primary analysis of need for additional surgery, we used a two-tailed  $\chi^2$  test and a *p* level of 0.05. For the purpose of our statistical analyses, we used six months as the hypothetical maximal acceptable wait time.<sup>24</sup> This hypothetical

maximum was determined by a group of experts, not involved with this study, as part of a Canadian Pediatric Wait Times Project.<sup>25</sup> Sample-size calculation showed that 75 patients were needed in each group, using an  $\alpha$  of 0.05 and a  $\beta$  of 0.80 to detect a 10% difference in rate of additional surgery between the two groups.

A logistic regression model was used to evaluate the relation between surgical wait times (independent continuous variable) and any adverse events as defined previously (outcome). We controlled for the following potential confounders: the size of the curvature at the time consent for surgery was given, the Risser scale (a radiographic marker of skeletal maturity based on the degree of lateral excursion of the iliac apophysis and scored from 0 to 5, with 5 representing full maturity) and the patient's age.<sup>1-3,22</sup> The Hosmer-Lemeshow goodness-of-fit test confirmed a good model fit by failing to reject the null hypothesis with an  $\alpha$  of 0.05 (*p* = 0.10).

The odds ratio (OR) for an adverse event was converted into a probability using the following equation: probability = OR / (1 + OR).

**Table 2:** Clinical and surgical outcomes in the overall study population and in the two surgical wait-time groups.

Characteristic	No. (%) <sup>a</sup>			<i>p</i> value
	Overall group <i>n</i> = 216	< 6 months surgical wait time <i>n</i> = 128	≥ 6 months surgical wait time <i>n</i> = 88	
Patients needing additional surgery due to progression of curvature	15 (6.9)	2 (1.6)	13 (14.7)	0.002†
Patients with any adverse events	127 (58.8)	62 (48.4)	65 (73.9)	0.002†
Patients whose curvature progressed by > 10° while waiting for surgery	54 (25.0)	17 (13.3)	37 (42.0)	0.001†
Median no. of levels fused	11 (9-12)	10 (9-12)	11 (10-13)	0.003‡
<b>Surgical approach</b>				0.013†
Anterior and posterior	41 (19.0)	20 (15.6)	21 (23.9)	
Anterior only	15 (6.9)	8 (6.3)	7 (7.9)	
Posterior only	160 (74.1)	100 (78.1)	60 (68.2)	
Patients needing thoracoplasty	49 (22.7)	29 (22.7)	20 (22.7)	0.990†
Median blood loss, mL (IQR)	1000 (700-1500)	1001 (700-1500)	1000 (700-1500)	0.410‡
Patients needing blood transfusion	20 (9.3)	14 (10.9)	6 (6.8)	0.300†
Median surgical time, min (IQR)	462 (390-540)	432 (375-535)	480 (420-570)	0.0011‡
Patients with prolonged surgical times§	24 (11)	10 (7.8)	14 (15.9)	0.06†
Patients with somatosensory-evoked potential changes	15 (6.94)	6 (4.7)	9 (10.2)	0.11†
Median length of stay in hospital after surgery, d (IQR)	8 (6-10)	7 (6-8)	9 (7-11)	0.0302‡
Median size of curve after surgery, degrees (IQR)	23 (18-30)	22 (18-28)	27 (19-33)	0.003‡
Patients with < 50% correction of curvature	63 (29.2)	29 (22.7)	34 (38.6)	0.011†

Note: IQR = interquartile range.  
<sup>a</sup>Unless otherwise indicated.  
† $\chi^2$  test.  
‡Wilcoxon-Mann-Whitney test.  
§Prolonged surgical wait time was defined as the highest 10th percentile in duration between the beginning and the end of surgery, excluding anesthesia time.

## Results

From November 1997 to August 2005, 216 sequential patients (176 girls, 40 boys) received surgery for adolescent idiopathic scoliosis. Patients who waited longer than or less than six months had comparable baseline characteristics (Table 1). Furthermore, regression revealed no relationship between wait time and baseline characteristics, including age, sex or the size or Risser score of the curvature.

### Primary outcome

Additional surgery was necessary for 15 (6.9%) of the 216 patients (Table 2). Of the 88 patients who waited six months or longer for their initial surgery, 13 (14.7%) required additional surgery compared with 2 of 128 patients (1.6%) who had waited less than six months for their initial surgeries ( $\chi^2$  analysis,  $p = 0.0002$ ). The two patients who had waited less than six months and who required additional surgery both had curvatures measuring less than  $70^\circ$  at the time that their first surgeries were scheduled; one of these patients waited 97 days, and the other patient waited 180 days. Wait times for the initial procedures for the 13 patients requiring additional surgery who waited longer than six months were between 204 and 544 days.

For the 15 patients requiring additional surgery, 13 (86.7%) were initially scheduled for a posterior-only approach at the time of surgical consent. Due to the progression of these patients' spinal curvatures to greater than  $70^\circ$  while waiting, both anterior and posterior approaches were done at the time of surgery. Two of the 15 patients requiring additional surgery (13.3%) had curvatures that were between  $70^\circ$  and  $90^\circ$  at the time the decision was made to proceed with surgery, but they received traction after the initial

anterior release because their curvatures had progressed to more than  $90^\circ$ .

### Secondary outcomes

The odds of any adverse event for those waiting longer than six months (defined as 182 days or more) was 3.32 (95% CI 1.8–6.2) (Table 3). Confounders were the size ( $p = 0.007$ ) and Risser score ( $p = 0.007$ ) of the curvature at the time that consent was given and the surgery was scheduled (Table 3). Larger curvatures and lower Risser scores at this time increased the odds of an adverse event occurring (corresponding ORs of 1.04 [95% CI 1.011–1.072] and 0.76 [95% CI 0.64–0.91]) (Table 3). The probability that an adverse event would occur was dominated by long waits or large curvatures (e.g.  $100^\circ$ ). The effect of skeletal immaturity at the time of consent was more moderate.

A receiver-operator characteristic (ROC) curve was used to graphically assess the impact of various access targets as cutoffs, increasing incrementally from 1 to 365 days, on the potential prevention of adverse events among patients who truly did have an adverse event (true positives) versus the prevention of adverse events in patients who did not have an adverse event (false positives) (Figure 1). On the ROC curve, two operating points are marked: the left point, based on visual appearance, was closest to being a potential inflection point and represents a four-month access target (true-positive rate = 76%, false-positive rate = 46%); the right point represents a three-month access target (true-positive rate = 84%, false-positive rate = 64%). The three-month cutoff had increased true-positive and false-positive rates compared with the four-month cutoff. The three-month access target was the shortest wait time (97 days) for which additional surgery was necessary due to progression of curvature. The adjusted OR for any adverse event occurring at this

**Table 3: Unadjusted and adjusted odds ratios for variables included in the logistical regression model for the occurrence of any adverse event\***

Variable	Unadjusted OR (95% CI)	p value	Adjusted OR (95% CI)	p value
Wait time per additional 90 d	1.73 (1.30–2.30)	0.0001	1.81 (1.34–2.44)	0.0001
Risser scale per unit change	0.84 (0.72–0.98)	0.0305	0.76 (0.64–0.91)	0.007
Size of curve when surgery was scheduled per degree in size	1.04 (1.01–1.07)	0.005	1.04 (1.01–1.07)	0.007
Age at time of consent per year of age	0.96 (0.86–1.08)	0.50	0.99 (0.86–1.14)	0.89

Note: CI = confidence interval, OR = odds ratio.

\*Adverse events included one or more of the following: surgery in addition to that planned at time of consent, curve progression of more than  $10^\circ$  while waiting for surgery, less than 50% correction of curve, need for a blood transfusion, prolonged surgery and perioperative neurologic injury.

three-month mark and per additional 90 days of waiting was 1.81 (95% CI 1.34–2.44).

### Interpretation

Determining empirically derived maximal acceptable wait times provides important information for clinicians and the agencies that fund health care. In this study, we have shown that prolonged wait times were associated with increased the complications for patients receiving surgery for adolescent idiopathic scoliosis. Patients who waited longer than six months for surgery were more likely to need additional surgery and had increased odds of having an adverse event. These differences reflect increases in the sizes and stiffness of spinal curvatures with prolonged wait times. In terms of secondary outcomes, there were significantly higher percentages of both patients with a progression of curvature of more than 10° and patients with prolonged surgery and less correction of the curvature (Table 2) among patients who waited longer than six months compared with those who waited less than six months.

Empirically derived maximal acceptable wait times have been determined for few surgical procedures. The Canadian Pediatric Surgical Wait Times Project has developed consensus-based access targets for more than 800 diagnoses in 11 surgical disciplines. For example, the consensus access target for infants with hernia was 21 days for infants aged less than 1 year.<sup>28</sup> A subsequent empirically based target found that a waiting time longer than 14 days in young children was associated with a significant increase in the rate of incarceration.<sup>29</sup> In this study, for the purposes of statistical analyses, we used six months as the access target based on expert consensus from the Canadian Pediatric Surgical Wait Times Project. Analysis of data revealed that three months (97 days) was the shortest wait time associated with sufficient progression of curvature to warrant additional surgery. Thus, a three-month maximal acceptable wait time could have eliminated the need for additional surgery. An ROC curve associated with adverse events also suggested wait times of three or four months as potential access targets. However, there is no potential gain and there are no cost savings associated with prolonging wait times to reduce false positives (i.e., using the four-month working target instead of the three-month target) (Figure 1).

Arguments could be made that not having to wait for surgery is optimal. However, there are disadvantages to wait times that are too short: patients may wish to bank blood, and the decision to have surgery is not one that can be taken lightly. Furthermore, increased resources would

be needed to meet shorter access targets, leading to the potential for operating rooms to sit idle.

In summary, an access target of three months has the potential to eliminate additional surgery and reduce the risk of adverse events while providing sufficient time for surgical preparation. This study provides a second example of how the empirically derived maximal acceptable wait time is shorter than the consensus target.<sup>27</sup>

### Limitations

This study was carried out retrospectively, so biases in chart and radiographic abstraction may have occurred. A prospective study would likely have minimized this bias. However, prospective studies would pose practical and ethical issues because patients who are informed of the hypothetical risks posed by long wait times could reasonably demand earlier surgery. We minimized the biases in chart and radiographic abstraction by abstracting patient chart details separately and blinding ourselves to the length of the wait time when obtaining radiographic data.

This study was done at a single institution. The Hospital for Sick Children is the largest children's hospital in Canada and the only pediatric hospital in Toronto. All sequential patients over a seven-year period received similar care and were given similar surgical techniques using segmental instrumentation. Because each patient who was seen and who consented for surgery

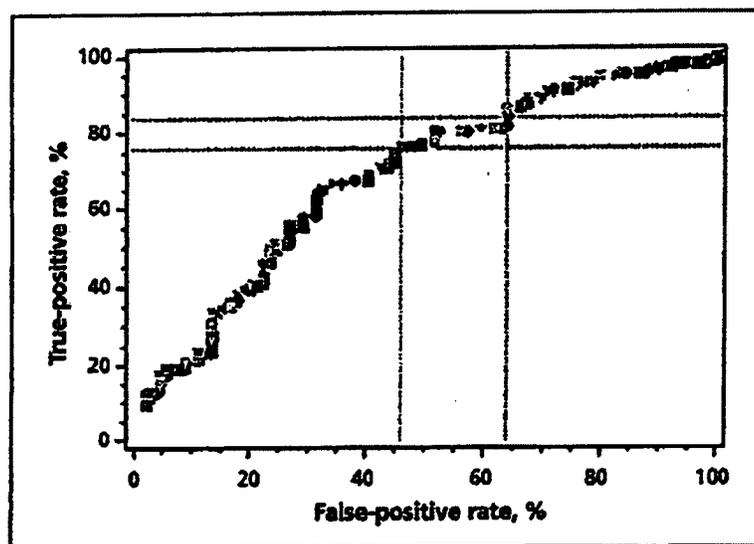


Figure 1: Receiver-operator characteristic (ROC) curve for adverse events related to surgical wait times. Each symbol represents a different cutoff wait time ranging from 1 to 365 days. True positives reflect instances of actual adverse events that may be prevented at a given cutoff value. False positives reflect instances of no adverse events that were thought to have been prevented at a given cutoff value. There is no clear inflection point on the curve. Two operating points are marked. The left operating point indicates a cutoff of four months (true-positive rate = 76%, false-positive rate = 46%); the right operating point indicates a cutoff of three months (true-positive rate = 84%, false-positive rate = 64%).

had their procedures done by the same surgeon, surgeon bias was eliminated as a potential reason for a patient to require additional surgery.

The need for additional surgery may have been reduced by newer alternative techniques for correcting scoliosis that use only pedicle screws. However, it is possible that wait times of longer than six months resulted in increased risk of adverse events irrespective of the type of instrumentation as larger curvatures are more difficult to correct.

Finally, the reasons for waiting for surgery were not always clear. Generally, new patients were added to the end of the waiting list and were given surgery as openings became available. However, there are other potential reasons for prolonged waits, including surgeons being unavailable, families attempting to schedule surgery to coincide with school holidays and facilities having inadequate resources.

### Conclusion

Prolonged wait times increase the probability of adverse events for the surgical treatment of adolescent idiopathic scoliosis. A maximal acceptable wait time based on minimizing the risk of additional surgery due to progression of curvature was three months, which is considerably less than the time frame originally determined by consensus opinion. The highest risks of adverse events due to prolonged wait times occurred in patients who were skeletally immature and had larger curvatures of the spine. Patients with these risks should be prioritized and monitored for progression of curvature while waiting for surgery. The ability to meet a three-month access target, on the national level, has resource implications;<sup>21</sup> sufficient operating room time, personnel, bedspace and funding are necessary. Waiting to see a spinal specialist after receiving a referral from a family physician can add further delay. Referrals should therefore be prioritized and accompanied by Cobb angle measurements to help identify patients who are already candidates for surgery. A maximal acceptable wait time that leads to a reduction in the progression of curvature also has the potential to reduce the strain on healthcare resources by decreasing the need for additional surgery.

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**Contributors:** Henry Ahn was responsible for the collection of the data. Henry Ahn, Dorcas Beaton and James Wright were responsible for the analysis of the data. All of the authors were responsible for the design of the study, the interpretation of the results and the drafting of the manuscript. All of the authors approved the final version submitted for publication.

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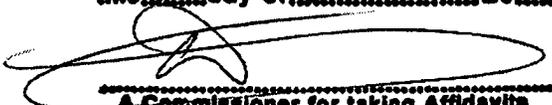
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This is Exhibit E referred to in the  
affidavit of Debbie Waitkus  
sworn before me at Kelowna  
this 21 day of Nov 2012



**A Commissioner for taking Affidavits  
for British Columbia**

**DOUGLAS M. FRANKS**  
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# Waiting for children's surgery in Canada: the Canadian Paediatric Surgical Wait Times project

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See related research by Ahn and colleagues at [www.cmaj.ca/cgi/doi/10.1503/cmaj.101511](http://www.cmaj.ca/cgi/doi/10.1503/cmaj.101511).

## ABSTRACT

**Background:** In addition to possibly prolonged suffering and anxiety, extended waits for children's surgery beyond critical developmental periods has potential for lifelong impact. The goal of this study was to determine the duration of waits for surgery for children and youth at Canadian paediatric academic health sciences centres using clinically-derived access targets (i.e., the maximum acceptable waiting periods for completion of specific types of surgery) as used in this Canadian Paediatric Surgical Wait Times project.

**Methods:** We prospectively applied standardized wait-time targets for surgery, created by nominal-group consensus expert panels, to pediatric patients at children's health sciences centres across Canada with decision-to-treat dates of Sept. 1, 2007 or later. From Jan. 1 to

Dec. 30, 2009, patients' actual wait times were compared with their target wait times to determine the percentage of patients receiving surgery after the target waiting period.

**Results:** Overall, 27% of pediatric patients from across Canada (17411 of 64012) received their surgery after their standardized target waiting period. Dentistry, ophthalmology, plastic surgery and cancer surgery showed the highest percentages of surgeries completed past target.

**Interpretation:** Many children wait too long for surgery in Canada. Specific attention is required, in particular, in dentistry, ophthalmology, plastic surgery and cancer care, to address children's wait times for surgery. Improved access may be realized with use of national wait-time targets.

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Prolonged wait times for care are often a concern in publicly funded health care systems.<sup>1</sup> Canadian governments have made the reduction of wait times a priority.<sup>2,3</sup> A Canadian federal-provincial accord, called the 2004 10-Year Plan to Strengthen Health Care, included a \$5.5 billion wait-times reduction fund to help provincial and territorial governments reduce wait times in the five priority areas, which are cancer care, cardiac care, diagnostic imaging, joint replacement and sight restoration.<sup>3</sup>

The focus of the fund, however, was almost exclusively relevant to adults, omitting Canada's children and youth, who represent more than one-quarter of the Canadian population<sup>4</sup> from the wait-time reduction priorities. To address wait times, governments in Canada have established central targets, such as the recommendation that surgery should be performed within six months of the decision to treat.<sup>3</sup> Although this approach is uniform and explicit, urgent surgery often requires a shorter time frame. An alternative approach to central targets is to have clinicians develop clinically derived

access targets (i.e., maximum acceptable waiting periods for the completion of specific types of surgery).

People are often surprised to learn that children wait for surgery just like adults.<sup>5</sup> In addition to the possibility of prolonged suffering and anxiety that is typical of extended waits, surgery in children must sometimes be performed at critical developmental periods.<sup>6</sup> Furthermore, adverse effects of extended waits may have lifelong impact, which magnifies the importance of measuring and addressing wait times in this vulnerable population. In 2006, the Pediatric Surgical Chiefs of Canada agreed to adopt standardized pediatric surgical wait-time access targets and resolved to measure the wait times for children's surgeries. Thus, the Canadian Paediatric Surgical Wait Times project was founded as an unprecedented national collaborative effort. The goal of the project was to determine the duration of waits for surgery for children and youth at Canadian children's centres in all surgical subspecialties, using clinically derived access targets.

## Methods

### Hospitals

We collected data from 15 Canadian pediatric academic health sciences centres. In Canada, there are 16 pediatric academic health sciences centres associated with the country's 16 university medical schools, and the vast majority of pediatric surgical subspecialists are associated with one of these children's centres. Although the percentage of children's surgery performed at the children's centres varies by region, all complex pediatric surgical procedures in Canada are performed in one of these centres.

The pediatric surgeon-in-chief and a site lead in each centre ensured that the requisite data were collected and transmitted to the project national office for collation and analysis. A site coordinator was responsible for ensuring the data were accurate, and complete data logs were maintained at each site to track and resolve potential data inaccuracies. Sites reviewed data on a monthly basis with the national office. In addition, the national office ran routine monthly analyses to examine trends and check for out-of-range values.

### Wait-time targets for access to surgery

The impetus for developing clinically derived target periods for access to surgery is that information on how long a patient waits for surgery is difficult to interpret without considering the patient's clinical context. For example, a wait of six months would have no adverse effects for a stable, non-life-threatening condition such as skin tags, whereas a wait of similar duration for pediatric strabismus (wandering eye) at critical junctures could influence brain development. Two wait-time intervals were defined. Wait 1 is the time from the date of referral to a specialist to the date of the initial specialist consultation. Wait 2 was defined as the time from the date on which a decision is made to proceed with surgery to the date of surgery. In this study, we focused on Wait 2.

The Paediatric Canadian Access Targets for Surgery (also known as P-CATS) were developed in 2005 and revised in 2008. Initially, the targets were developed by surgeons from Ontario at in-person meetings. A nominal-group technique was used to build consensus among discipline-specific expert panels that consisted of surgeons from 11 surgical subspecialties.<sup>7</sup> Clinicians were instructed to consider all of the diagnoses among patients who presented to their specialty for consultation and surgery, and to determine, to the best of their knowledge and according to available evidence, the maximum

period that the patients could wait for surgery. The wait time was defined as the period from the date on which a decision was made to proceed with surgery to the date of surgery, without reasonably expected adverse events.<sup>7</sup> In 2008, the resulting wait-time targets received relatively minor revisions that mainly involved the expansion of missing codes using teleconferences involving surgeons from across Canada.<sup>8</sup>

Based on 867 identified diagnoses, access targets were assigned a priority classification level that was consistent across all subspecialties, with an associated target wait time for surgery (Appendix 1, available at [www.cmaj.ca/cgi/content/full/cmaj.101530/DC1](http://www.cmaj.ca/cgi/content/full/cmaj.101530/DC1)). Priority I refers to surgery that needs to be performed within 24 hours, Priority IIa within 1 week, Priority IIb within 3 weeks, Priority III within 6 weeks, Priority IV within 3 months, Priority V within 6 months and Priority VI within 12 months. Automatically linking the diagnoses to a priority score and associated target time provides a uniform and standardized approach to determining the appropriateness of the duration of the wait for surgery. It also reduces the potential for "gaming" (i.e., taking advantage of the system) by using subjective priorities assigned by clinicians.

Patients' actual wait times were compared with their target wait times to determine the percentage of patients receiving surgery past target (i.e., after the target waiting period). The date of the decision to proceed with surgery in 11 of the centres was defined as the date when patients were ready and all necessary diagnostic procedures were complete. In the other four centres, it was defined as when patients were ready but not all diagnostic tests had been completed. Data collection began on Sept. 1, 2007. The data contained in this report are from the period of Jan. 1 to Dec. 31, 2009. We collected data on all surgeries completed on or after Jan. 1, 2009. All patients who had been placed on waiting lists from September 2007 onward (and who were still waiting as of Jan. 1, 2009) were included. Emergent surgeries (i.e., those needing to be performed within 24 hours) were excluded. We did not collect data on adverse events.

### Statistical analysis

T-tests were performed on the slope of the trend from Jan. 1 to Dec. 31, 2009, for the percentage of surgeries completed past target. Significance was assessed at the  $\alpha = 0.05$  level.

A Pearson correlation test was used to identify relations between hospital size and percentage of surgeries completed past target for various surgical subspecialties. Significance was assessed at the  $\alpha = 0.05$  level.

## Results

Data on more than 84 922 awaited and completed surgeries were collected from January to December 2009. The percentages of surgeries completed past target for all surgical subspecialties are shown in Table 1, in descending order from the highest to the lowest. Overall, 27% of pediatric patients (representing 17 411 of 64 012 completed surgeries and ranging from 15%–45% by surgical subspecialty) received their surgeries past target. During this same period, more than 90% of patients received their surgery within six months of the decision to treat.

The percentage of surgeries completed past target ranged from 24%–30% from January to December 2009. Although there was fluctuation, a significant change did not occur over the study period. The highest percentages of surgeries completed past target were in the subspecialties of dentistry (45%), ophthalmology (43%) and plastic surgery (35%). The next three highest were in the subspecialties of cancer, neurosurgery and cardiac surgery (Table 1).

Whereas no significant changes were observed in ophthalmology, plastic surgery or any other surgical subspecialty studied, a significant decline in the percentage of surgeries completed past target was observed in dentistry ( $p = .007$ ) (Figure 1).

When results were stratified by diagnoses, dentistry patients with moderate to severe dental decay and dental pain, ophthalmology diagnoses related to patients with strabismus and plastic surgery patients who had cleft lip and palate or cleft palate were all identified as contributing most to the high percentage of surgeries completed past target in their respective areas (data not shown). A significant correlation was not observed between size of hospital and percentage of surgeries completed past target in these areas ( $r = -0.19$ ;  $p = 0.51$ ).

## Interpretation

Waiting for care continues to be a substantial issue in Canada for health care systems, providers and patients. Despite all of the attention on wait times, a report from the Canadian Institute for Health Information stated that “variations in measures across provinces means the reported wait times are not yet comparable from one jurisdiction to the next,”<sup>19</sup> underscoring the need for “national indicators to ensure accountability,”<sup>20</sup> as described in a *CMAJ* editorial. The Canadian Paediatric Surgical Wait Times project developed a pan-Canadian standardized approach to evaluating pediatric surgical wait times within all pedi-

atric surgical subspecialties. The pediatric access targets have now been adopted as a provincial standard by British Columbia and Alberta, which means that two provinces now use a uniform and standard approach to measuring wait times for surgery based on clinical need.

Although the percentage of surgeries completed past target varied by surgical subspecialty and hospital, all hospitals, irrespective of site and subspecialty, had patients whose surgeries were completed past their access targets. Despite receipt of surgery within six months of the decision to treat for 90% of patients, clinically derived targets found that 27% of children waited too long for their specific condition.

Information derived from the application of these access targets could be used in multiple ways. First, surgeons, as individuals or as a group, can manage and triage patients on their surgical wait-lists based on clinical acuity. Second, surgeons and institutions can share best practices to improve wait-list management. Third, institutions can make decisions about shifting or investing resources to address the needs of patients. For example, one participating hospital has begun to use the data to redistribute operating room resources to areas with the highest percentages of surgeries completed past target. The result has been a substantial reduction in overall out-of-window rates (i.e., rates of surgeries not completed within target waiting periods). Fourth, regions can better understand interinstitutional demand and possibly manage referrals to better match capacity.

Finally, funders like the provincial ministries of health in Canada can identify areas where resources can be used more efficiently or areas where need is determined to exceed capacity, and

**Table 1: Numbers of surgeries not completed as of December 2009 and surgeries completed past the target period in all surgical areas from January to December 2009**

Area	Current waiting	Total completed	No. (%) completed past target
Dentistry	4 672	9 784	4 409 (45)
Ophthalmology	1 818	5 172	2 227 (43)
Plastic surgery	1 725	4 833	1 684 (35)
Cancer surgery	83	1 075	304 (28)
Neurosurgery	121	989	232 (23)
Cardiac surgery	297	1 572	365 (23)
Otolaryngology	5 809	17 567	3 793 (22)
General surgery	1 892	10 368	1 998 (19)
Urology	2 302	6 055	1 162 (19)
Orthopedic surgery	2 150	6 317	1 196 (19)
Gynecology	41	280	41 (15)
Total	20 910	64 012	17 411 (27)

provide targeted funding to reduce wait times on a regional, provincial or national basis.<sup>11</sup> For example, at SickKids at the beginning of this project, the wait list for children needing dental treatment exceeded 600 patients. Application of the access targets to this list showed that more than 70% of children had exceeded their access targets. This information was influential in convincing the Ministry of Health and Long-Term Care in Ontario to provide volume-based funding for additional procedures. Access targets were also used at SickKids to triage and prioritize patients. With those two initiatives, the wait list has now dropped to about 200 patients, and the out-of-window rate has dropped to zero. The out-of-window rate has allowed us to determine the maximum acceptable size of the wait-list for children requiring dental treatment.

There are several potential barriers to the implementation of access targets. First, to expand targets beyond children's surgery would require some financial investment and the cooperation of professional societies to perform the consensus activity using a method similar to that used to develop the pediatric targets. British Columbia has recently implemented diagnosis-based target periods for access to surgery by adults. These targets were derived using a similar consensus-based approach to ours that is intended for use in that province for all patients 17 years of age and older. Alberta is exploring a similar process for

their adult patients. If these ventures are successful in those two provinces, then nationwide Canadian access targets for surgery for both children and adults could become a reality.

Second, hospitals need to develop processes for capturing decision-to-treat dates and surgical dates. Although this data collection can be performed manually, ideally it would be performed in conjunction with surgical information systems used in virtually all operating rooms. Third, the provinces of Canada would have to cooperate and adopt uniform reporting systems. Fourth, the information would ideally be collected centrally. For example, the Canadian Institute for Health Information, with its national mandate, would be the ideal organization to both collect data and ensure quality control.

Dental treatment requiring anesthesia, ophthalmology and plastic surgery were identified as the three areas with the highest percentage of surgeries completed past target. Dental treatment requiring anesthesia uses the most operating room hours at the majority of pediatric hospitals in Canada.<sup>12</sup> Our results identify dentistry as a high-priority area to address and underscore the importance of reducing the prevalence of dental decay.<sup>13</sup> The area of surgical ophthalmology is primarily driven by patients with strabismus. Delay in correcting strabismus in children jeopardizes their chances of retrieving normal vision and the associated benefits in quality of life.<sup>14</sup> The area of plastic surgery is driven primarily by

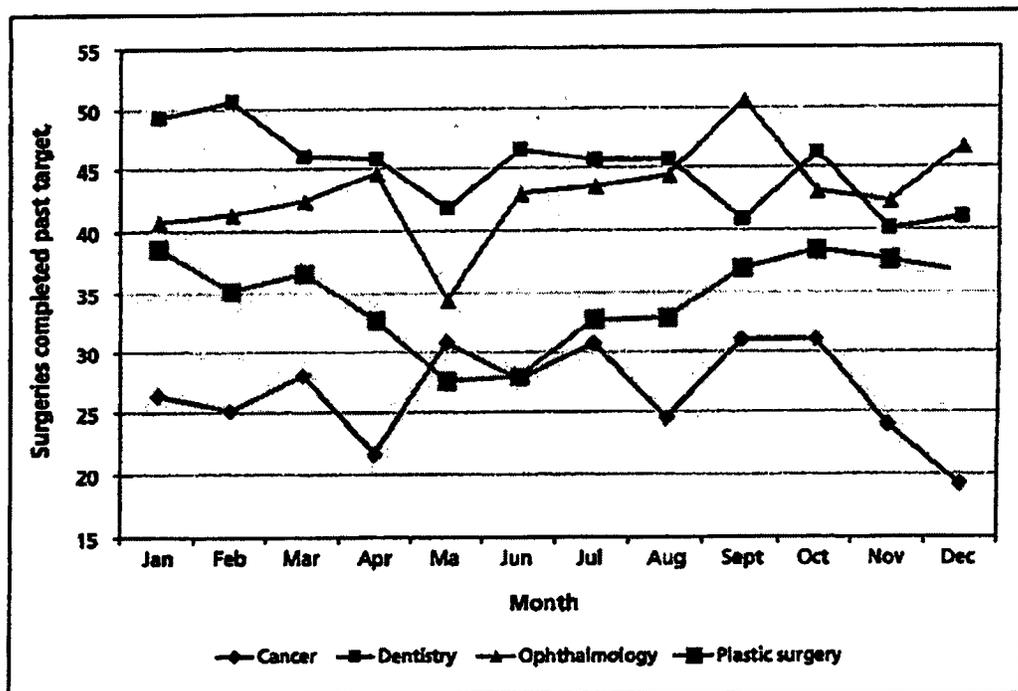


Figure 1: Percentage of surgeries completed after the target waiting period in dentistry, ophthalmology and plastic surgery from January to December 2009.

patients requiring cleft lip and palate surgery. To ensure a child's optimal speech, cleft lip and palate surgery must be performed at specific times.<sup>15</sup> Surgery for cleft lip or cleft lip and palate illustrates the complexity of children's surgical care, because the coordination of cleft repair requires collaboration with multiple services. Therefore, simply increasing operating room resources may not reduce the time patients wait unless care can be coordinated.

Finally, the next three areas with high rates were cancer surgery, neurosurgery and cardiac surgery. In addition to all of the issues highlighted above, these out-of-window rates are particularly concerning because many of the diagnoses in these three clinical areas are potentially life-threatening. This concern underscores the need for a comprehensive approach to evaluating surgical wait times and the specific need to address surgical wait times for children.

#### Limitations

Our study has several potential limitations. First, data collection occurred only at pediatric academic health sciences centres and did not include Canadian community hospitals. Expansion of the study to include more hospitals that perform children's surgeries might have shown a lower percentage of surgeries completed past target. However, children's centres perform a large percentage of children's surgery in Canada, and all complex surgery, such as cancer, neurosurgery and scoliosis, is performed at these centres.

Second, the targets used in this study were based on expert consensus panels, and we neither recorded nor analyzed adverse events or outcomes that may have occurred and been related to prolonged waiting periods. However, because there is little or no benefit to prolonged waits, empirically based access targets may be even shorter than those determined by expert consensus. Although little or no data are available, in instances of inguinal hernia, for example, the consensus target waiting period of three weeks is probably too long. A study published shortly after the consensus targets had been established reported that many children waiting for hernia surgery longer than two weeks often required urgent surgery due to incarceration.<sup>16</sup> Further research is needed to determine empirically based targets for all conditions needing surgery.

Third, although this project used a standardized definition for the decision-to-treat date, four sites collected data according to provincially mandated definitions that placed patients on waiting lists before all diagnostic procedures were performed or before patients were developmentally ready for surgery. However, high out-of-window

rates for surgery were found at all hospitals irrespective of discrepancies in definitions. Furthermore, in a comparison between the data from the 11 centres that used the standardized definition of the decision-to-treat date and the data from the four sites that used provincial definitions, we found only small differences in the percentage of surgeries performed beyond target (26.9% for the 11 centres using the standard definition compared with 27.7% for the other four).

Fourth, this research considers only the interval between the date of decision between the family and the surgeon to proceed with surgery and the date of receipt of that surgery. A full consideration of wait time would need to take into account other waiting periods, such as that to see the specialist or to receive essential investigations.

#### Conclusion

We implemented a standardized, Canada-wide approach, developed by clinicians and based on clinical need, to the evaluation of pediatric surgical wait times in all surgical subspecialties. Overall, 27% of pediatric patients from across Canada received surgery beyond their standardized target period for access to surgery. We believe this national collaborative project shows the feasibility and potential benefits of setting national standards for surgical wait times. Such accountability can result in measurably improved access in the delivery of national publicly funded health care.

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**No. S090663**  
Vancouver Registry

IN THE SUPREME COURT OF  
BRITISH COLUMBIA

BETWEEN:

**CAMBIE SURGERIES COPORATION et al**

AND: PLAINTIFF

**MEDICAL SERVICES COMMISSION et al**

AND: DEFENDANTS

**SPECIALIST REFERRAL CLINIC  
(VANCOUVER) INC.**

DEFENDANTS BY WAY OF COUNTERCLAIM

AND:

**DR. DUNCAN ETCHES ET AL  
INTERVENERS**

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