CITATION: Barber v. Humber River Regional Hospital, 2015 ONSC 1838
COURT FILE NO.: 08-CV-347579PD3
DATE: 20150707

ONTARIO

SUPERIOR COURT OF JUSTICE

BETWEEN:	
ANNETTE BARBER, ASHTON JESSICA BARBER, by her Litigation Guardian, Annette Barber, and KRISTYANNA SAUDER Plaintiffs	*David R. Neill, Esther J. Roche* for the Plaintiffs
– **and** –	
HUMBER RIVER REGIONAL HOSPITAL, DERRICK CHANG, DAVID JOHN SHERGOLD, VIRAT JOSHI, STEPHEN ALLAN GLAZER, HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF ONTARIO and THE SUPERINTENDENT OF THE TORONTO WEST DETENTION CENTRE Defendants	*Erica J. Baron, Sam Rogers* for the Defendant
	HEARD: November 24, 25, 26, 27, 28; December 1, 3, 4, 5, 8, 10, 2014; and January 6 and 7, 2015.

M.A. SANDERSON J.

REASONS FOR DECISION

INTRODUCTION

[1] On February 17, 2006, Mr Mark Barber ("Barber") died as a result of pneumococcal bacterial meningitis.

[2] The Plaintiffs, Barber's wife and daughters, have resolved their claims in connection with the circumstances surrounding his death against the Humber River Regional Hospital ("the Hospital"), Her Majesty the Queen in Right of the Province of Ontario and the Superintendent of the Toronto West Detention Centre (the "Detention Centre) by way of a proportionate sharing of liability settlement agreement.

[3] Their claims against Doctors Derick Chang and Stephen Glazer have been dismissed on consent.

The Issues to Be Determined Here

[4] The matters to be determined in this litigation are the liability for negligence, if any, of the Defendants Dr. Virat Joshi ("Joshi") and Dr. David Shergold ("Shergold"), emergency room physicians at the Hospital, and the quantification of damages, if any, caused by that negligence.

Position of the Plaintiffs

[5] Generally, the Plaintiffs have alleged that in all the circumstances here, Joshi and Shergold have breached the Standard of Care expected of emergency room physicians in a tertiary care facility in 2006, and that they caused Barber's death. They seek damages for their loss of Barber's care, guidance, companionship, financial support and household services.

(a) Liability of Dr. Joshi

[6] The Plaintiffs have alleged that on February 13, 2006, when Barber was a patient in the Emergency Room ("ER") at the Hospital, Joshi failed to adequately monitor Barber's condition, perform a sufficient physical and neurological examination, consider meningitis in his differential diagnosis, perform sufficient testing for meningitis, including a lumbar puncture, diagnose and appropriately treat bacterial meningitis. He failed to refer Barber to a specialist so that he could have been admitted to the Hospital, rather than being discharged back to the Detention Centre. Had Joshi met the Standard of Care, bacterial meningitis would have been diagnosed and properly treated around 10 AM on February 13.Barber would not have died.

(b) Liability of Dr. Shergold

[7] The Plaintiffs have alleged that on February 14, 2006, after Barber was brought back to the ER at the Hospital, Shergold should have suspected bacterial meningitis, included it in his differential diagnosis and tested specifically for it. If he had, Shergold would have diagnosed Barber's bacterial meningitis and treated it properly. He failed to properly monitor and record Barber's condition, to refer Barber to a specialist, to properly treat Barber's hypertension and bacterial meningitis. But for Shergold's negligence, Barber would not have died.

Position of the Defendants

[8] Counsel for the Defendants submitted that the Plaintiffs have not met the burden of proving any breaches of the Standard of Care by Joshi and/or Shergold. They have not proven that but for their negligence, Barber would not have died.

The Evidence

[9] Counsel for the Plaintiffs called the following witnesses to give evidence: the three Plaintiffs, Barber's wife, Annette, his daughters Kristyanna and Ashton; a family friend; two nurses and two guards from the Detention Centre; and two expert medical witnesses, Dr. Brankston ("Brankston") and Dr. Fong ("Fong").

[10] Counsel for the Defendants called the following witnesses to give evidence: the two Defendants, Dr. Joshi ("Joshi") and Dr. Shergold ("Shergold"); and three medical expert witnesses, Dr. Boushy ("Boushy"), Dr. Powis ("Powis") and Dr. Juurlink ("Juurlink").

BACKGROUND

[11] Barber married Annette in 1991. At the time of his death in 2006, Barber was 46 years old. Kristyanna was living away from home; Ashton was still at home.

[12] It is uncontested that the Barber family was close. However, around the time of Barber's death, they were having some problems. Barber had a history of charges, convictions and incarcerations for fraud. On January 31, 2006, just over two weeks before his death, Barber had surrendered himself to the police in connection with further fraud charges. At all material times, he was in custody at the Metro West Detention Centre ("the Detention Centre"), awaiting trial on those charges.

[13] The events in question involving Joshi and Shergold took place in the Emergency Department ("ER") at the Hospital on February 13 and February 14, 2006.

Barber's Pre-February 2006 Health History

[14] Annette gave evidence that as of January 31, 2006, Barber s health was "fine." Barber, a truck driver, "had the energy to climb on a truck like he was 19."

[15] At the time of Barber's intake into the Detention Centre on January 31, 2006, a Dr. Mueller had performed a routine physical examination and had noted Barber's history of chest pain, shortness of breath, coronary artery disease, angioplasty and hypertension. Exhibit 3 Tabs 7 and 9.

[16] Throughout these Reasons, I have made reference to readings of Barber's vital signs, including temperature, respiration rate and blood pressure. For ease of reference I shall set out here normal readings. They are as follows: temperature up to 38°C, blood pressure 120/80-140/80 or 140/90, respiration 12-20 breaths per minute.

Barber's Health Status January 31 to Early Morning February 13

[17] On February 7, 2006, Barber asked to see a doctor at the Detention Centre, saying he was too ill to attend at court. On February 8, after he was required to appear in court, he was taken to Toronto General Hospital because he was complaining of chest pain. At the hospital, a fever of 39.9°C was recorded. Exhibit 1 On the hospital chart, Barber was noted to be alert and oriented times 3. After examination and treatment, he was returned to the Detention Centre.

[18] Fong gave evidence that he thought that around February 8, Barber had influenza or mild pneumonia. A known complication of influenza is pneumonia p. 395 A known complication of pneumonia is meningitis.

[19] On February 9, 2006 at 8 AM Dr. Shedletsky recorded Barber's temperature at 38.2°C, his blood pressure at 150/80.

[20] On February 10, 2006, Barber was suspected to have gastroenteritis. Exhibit 1 p. 55.

[21] On Saturday, February 11, 2006 at 8:00 AM, Barber's temperature was 38.3°C Exhibit 1 p. 55. At 8:30 AM, his blood pressure was 210/160. A Detention Centre physician was paged. At 11:00 AM his blood pressure had come down to 140/83. Exhibit 1 p. 56. At 4:00 PM his temperature was 39°C. His blood pressure was 200/100. Dr. Shedletsky ordered a nitroglycerin patch. Tylenol was given. Exhibit 1 p. 56.

[22] On February 12, 2006 at 7:30 AM Barber's temperature was 38.2°C. Tylenol was given. At 1:30 PM his temperature was 39°C. Tylenol was given. At 5 PM his temperature was 39.8°C. Tylenol was given. At 9 PM his temperature was 39.4°C. Tylenol was given.

[23] Barber had been scheduled to appear in Court on the morning of February 13, 2006.

[24] At 8 AM on on February 13, 2006, Dr. Mueller wrote on the Detention Centre chart, Exhibit 1 p 57: Temperature 39 °C. Fever x 3-4 days. Not saying much. Hyperventilating. Dry mouth. ... Unable to give date and place, inspiratory crackles, bp 150/90...pneumonia and dehydration, not fit for Court. (Emphasis added.) Instead of sending Barber to Court, Dr. Mueller directed that Barber be transferred by ambulance to the ER at the Hospital.

[25] On a Health Care Consultation Record, Dr. Mueller wrote Exhibit 1 p 79, "Pl see re fever and decreased level of consciousness x 2 days, dry tongue, left inspiratory chest crackles, bp 150/90 RX atenolol...Norvasc...ASA." (Emphasis added.)

[26] During Barber's transport to the Hospital, the paramedics noted in the Ambulance Call Report Exhibit 1 p 105 that Barber was being sent to the Hospital because of fever, decreased level of consciousness, dry mouth and cough x 2 days. (Emphasis added.)

[27] En route to the Hospital, the paramedics recorded that Barber was unwilling or unable to answer questions. A thorough assessment was not possible. They also noted that Barber was complaining of chest pain and was diaphoretic [sweaty]. At 8:43 AM, they recorded his blood pressure at 170/100, his temperature at 37.6°C. At 8:58 AM, they recorded his temperature at 37.9°C, his blood pressure at 183/113. They gave him aspirin en route to the Hospital.

[28] Starting at 9:17 AM, Barber was triaged at the Hospital. Exhibit 1 p. 111. His Canadian Triage Acuity Score ("CTAS") was 2 emergent [suggesting he should be seen within 15 minutes]. He was noted to have an ashen skin colour and a diaphoretic brow. His blood pressure was elevated at 187/113. His temperature was 37.6°C. Exhibit 1 p. 111. He was also noted to be non-communicative. His respiration rate was recorded at 22 breaths per minute. (Emphasis added.)

[29] Barber was placed in a telemetry room, where Dr. Joshi said he would be automatically monitored in real time for heart rate and oxygen saturation. His respiration rate could be extrapolated from other readings. His blood pressure would be recorded every 10-15 minutes. pp. 877-879. Temperature readings would be taken manually.

[30] At 9:55 AM, Exhibit 1 p. 112, a nurse recorded that Barber was short of breath, had a respiration rate of 29-35 breaths per minute, decreased air entry, crackles/rales in his left lung. He was very sweaty. The same nurse noted that Barber was vague and unable to focus on conversation. He wrote "oriented x 3," then crossed it out. (Emphasis added.)

[31] At 10:00 AM, in Exhibit 1 p. 114, a nurse recorded the following: temperature 37.9°C, pulse 80, respirations 40 breaths per minute [Joshi at about the same time recorded 20 breaths per minute], blood pressure 178/96. (Emphasis added.)

[32] Fong and Powis, infectious disease experts called by counsel for the Plaintiffs and the Defendants respectively, both agreed that by the time Joshi first saw him at 10:00 AM on February 13, 2006, Barber already had bacterial meningitis.

[33] Fong said by then, Barber already had a decreased level of consciousness from the meningitis.

10:00 AM Assessment

Joshi's Evidence and Expert Opinions on the Standard of Care

Joshi's Charting

[34] Joshi's notes taken at 10:00 AM on February 13, 2006 are at Exhibit 1 p. 109. Joshi said he did not record everything on the Hospital chart that he observed. As a general proposition, he agreed that it was important to chart matters impacting on patient management. He said pp. 989, 990: "We would document if there are salient positive or negative findings that are relevant to the presented complaint or course within the emergency department."

Information available to Joshi at 10 AM

[35] Joshi conceded p. 867 that by 10 AM, he had had access to the EMS record, Exhibit 1 p. 105 [where a history of decreased level of consciousness and fever x 2 days had been noted, and he knew that en route to the Hospital, Barber had been unwilling or unable to answer questions]. He had the nursing triage sheet, Exhibit 1 p. 111 [noting an ashen skin colour, and that he was sweaty and uncooperative], part of the secondary nursing assessment p. 866 and the readings recorded on the ongoing assessment portion of the nursing record. [Joshi said Barber's guards had not yet given him Dr. Mueller's Health Care Consultation Record. However, Joshi said he had most of the information in it, because it had been included in the EMS record.]

[36] Joshi emphasized that at triage, Barber's primary complaint had been of chest pain. He said the cardiac complaint, not the history of decreased level of consciousness [x 2 days] had been the reason for the CTAS score of 2.

[37] Joshi said pp. 867-868 he understood that, based on the information at triage, the EMS sheet and the history he took from Barber at 10 AM, Barber had a cough and a history of fever. There was "a question" about a decreased level of consciousness for one or two days.

Barber's Presentation at 10 AM

Skin Colour

[38] At 10:00 AM, Joshi said p. 912 he observed [but did not record on the Hospital chart] that Barber's skin colour was normal [not ashen as had been noted at triage at 9:17 AM]. When asked how he knew that Barber's skin colour was normal at 10 AM, Joshi said p. 912 if he had seen an ashen skin colour, he would have documented it.

[39] Boushy, the expert on emergency medicine called to give evidence by counsel for the Defendants, said p 683 that in formulating his opinion that Joshi met the Standard of Care, he

assumed that Joshi's evidence on discovery was correct, including that Barber's skin colour at 10:00 AM was normal.

[40] Fong, an expert witness called to give evidence by counsel for the Plaintiffs, assumed that because Joshi made no note of a change in skin colour that Barber's skin colour at 10 AM was ashen as had been recorded on the Hospital chart at 9:17 AM. He said he thought that Barber's skin colour at 10 AM was significant, because patients with bacterial meningitis typically appear to be very unwell. Fong assumed pp. 373 439 that Barber was very sick looking. He was noted to be profusely sweating and uncommunicative. Fong's impression was that at that time Barber was not fully conscious, not verbalizing. He had already been reported not to have been oriented to person, place, and time.

Diaphoretic

[41] Joshi said at 10:00 AM pp. 912-913 he did not observe Barber being "truly diaphoretic." He downplayed the nurses' and the paramedics'earlier observations, saying that "diaphoretic" is a term that is "overused". He did not deny that Barber was sweating at 10:00 AM.

[42] Dr. Brankston, an expert in emergency medicine called by counsel for the Plaintiffs, said that he determined from the records that at the time Barber arrived at the Hospital, he looked much sicker than many patients with community acquired pneumonia.

Physical Examination

[43] At 10:00 AM on February 13, Joshi said pp. 881-882 he conducted a "focused" physical exam. Despite Barber's acknowledged confusion, he said p. 882 where Barber had made a complaint of chest pain with no other complaint, he would have focused his examination on his cardiovascular and respiratory system. He said, "No emergency physician will do a full system examination if the patient is alert and able to identify his main complaint."

Cardiovascular Examination - Consideration of Blood pressure

[44] Joshi said p. 910 that at 10:00 AM he conducted a cardiovascular examination. Barber's heart rate was 90 beats per minute, within the normal range. His blood pressure was elevated at 178/90 p. 911.

[45] Joshi downplayed p. 911 the elevated blood pressure, saying that he knew Barber was supposed to be on hypertensive medication and he wondered whether he had been receiving it.

Consideration of Respiration Rate

[46] Because Barber had complained of chest pain, Joshi said he examined Barber's chest. He followed the standard procedure, inspection, percussion, auscultation. He wrote "BS

vesicular," breath sounds normal. He said pp. 889, 892-894, he listened to Barber's lungs with his stethoscope. He heard early coarse inspiratory crackles in the left lower lung.

[47] Joshi reviewed Barber's respiration rate. He said p. 897 he recognized that the respiratory rate of 20 breaths per minute he said he had noted at 10:00 AM was significantly different from the rate of 40 breaths per minute a nurse had recorded on the hospital chart at about the same time [and from the 29-35 breaths per minute a nurse had recorded five minutes earlier at 9:55 AM, Exhibit 1 p. 114. He said he could not explain those readings [that his counsel conceded were accurate].

[48] Boushy, the expert on emergency medicine called to give evidence by counsel for the Defendants, acknowledged p. 670 that in formulating his opinion, he had been asked by counsel for the Defendants to assume that Barber's respiratory rate at 10:00 AM and later on February 13 was 18-20 breaths per minute or so, not the 40 breaths per minute that the nurse had recorded at around the same time, and not the 42 breaths per minute recorded on the Hospital chart at 11:25 AM.

[49] Boushy said p. 633 that a patient's respiration rate can increase in the face of anxiety or stress. However, respiration rates of 40 breaths per minute, if persistent, can be indicative p. 795 of progression of respiratory illness, or of the presence of other illnesses such as bacteremia or sepsis. Increased respiratory rates can also be caused by intra-cranial problems.

[50] Boushy acknowledged that if, at 9:55 AM, Barber had had a respiration rate of 29-35 breaths per minute and at 10:00 AM, of 40 breaths per minute, that would have been of concern pp. 795, 798. He also conceded that the nursing note made in the Hospital chart at 11:25 AM recording a respiration rate of 42 was something that an ER physician would want to know about. He said "I think that if Dr. Joshi saw …those findings and he believed them to be true and ignored them, he would have been wrong." pp. 793, 809. Fong said given the nurse's recording of Barber's respiration rate of 40 breaths per minute, he would have recommended Barber's admission to the Hospital.

[51] Boushy said if Barber's breathing had not substantially improved, Barber needed to be admitted to the Hospital. Fong said that a respiration rate of 40 was "too fast for just pneumonia" p.452.

[52] Joshi conceded that a respiration rate of 40 is a concerning rate p. 899 and that he would have been concerned had he seen it himself. He said that in all three of his assessments on February 13, 2006 [at 10:00 AM, 12:30 PM and 2 PM] he never observed Barber to have an elevated respiration rate. He said pp. 897-900: "Respiration rates can vary tremendously. If … transient … it is not of concern." He said he looks for sustained rates. If they are sustained, that is important.

Failure to Consider History of Altered Level of Consciousness Fever and Presence of Confusion Indicative of Meningitis

The Neurological Examination

[53] When he examined Barber at 10 AM on February 13, Joshi had the notes taken in the ambulance, the Hospital note taken at 9:55 AM oriented x 3 [person, place, time] crossed out, vague unable to carry on a conversation, the note that he had been non communicative. Joshi knew that Barber had had a history of fever and a "decreased level of consciousness" x two days p. 451. He acknowledged p. 868 that he knew Barber had been sent for assessment, in part because of a history of "decreased level of consciousness" for one or two days.

[54] At 10:00 AM in his note on the Hospital chart, Exhibit 1 at p. 109, Joshi recorded that Barber was "confused" pp. 972, 973. In his evidence, Joshi downplayed his own note of confusion saying p. 971 that in making it, he had given Barber "the benefit of the doubt" because Barber had not been answering some of Joshi's questions.

[55] I have already noted that Joshi gave evidence that his examination at 10 AM on February 13 was "focussed" on Barber's cardiovascular and respiratory systems.

[56] Fong said by the morning of February 13, from the description of his condition in the records, his history of fever and decreased level of consciousness, because of the fever and decreased level of consciousness that Barber was already exhibiting signs of brain dysfunction. Joshi should have included meningitis in his differential diagnosis, done a full examination of Barber's head and neck, tested to ensure Barber had no neck stiffness, defined, and recorded in detail, his level of consciousness.

[57] Joshi said p. 974 he did not specifically do a hands on examination for neck stiffness. He did not ask Barber to flex his neck forward p. 974. However, he said he could tell that Barber had no neck stiffness because he was moving freely.

[58] Fong said in his clinical teaching, he teaches his students that when they have patients with symptoms like Barber's p. 451, they must do a physical that includes a detailed neurological examination. pp. 430-432; 435, 440.

Confusion

[59] Despite his note of confusion, Joshi said p. 1021 that at 10:00 AM, Barber did not have a decreased level of consciousness. He differentiated between confusion and decreased level of consciousness, saying that confusion relates to cognition, consciousness to alertness and arousal. He agreed that there is some overlap between the two. He said: "As your level of consciousness deteriorates, p. 1025 depending on the cause of the decreased level of consciousness...you can have confusion as well." pp. 1021-1025.

Joshi's Assumptions About the Causes of Barber's Confusion

[60] Boushy, again a witness called by counsel for Joshi, did not make the same distinction. He said p. 650 an altered [decreased] mental status could describe someone who is slightly confused or somewhat confused, someone who is not answering questions properly, someone who is quite vague in answering questions.

[61] Joshi said pp. 905-906 at 10:00 AM he considered possible explanations for Barber's confusion: (1) an infective process [pneumonia] could cause confusion; (2) fever could cause confusion; (3) decreased fluid intake/ dehydration could cause confusion.

[62] Since Barber's oxygen saturation readings were fine, Fong said he could rule out (1) lack of oxygen from pneumonia as the cause of Barber's confusion p. 428.

[63] With respect to (2) fever as the cause of the confusion, Joshi said at his 10:00 AM assessment on February 13, 2006, he knew of Barber's history of fever over 2-4 days. At 10:00 AM, Barber's temperature was 37.9°C taken orally. Joshi said that was a low grade fever. "It is within the realms of normal, depending on what your normal range is..."

[64] Boushy said it was possible that fever could have been the cause of Barber's confusion. He said p. 681 where there is a fever: "We need to ensure that we reduce the fever and reassess the patient. If we reduce the fever and the patient improves, then in our mind the confusion was contributed to by the fever."

[65] With respect to (3) dehydration as the cause of the confusion, Fong said Barber showed no clinical signs of dehydration p. 417. There was no physical evidence at 10:00 AM p. 408 to support a conclusion that Barber was severely dehydrated. [Joshi conceded p. 920 he did not assess Barber as being clinically dehydrated.]

Need to Consider All Possible Causes of Barber's Confusion

[66] Fong said in all the circumstances, Joshi 428-431 needed to rule out all possible causes of confusion and altered mental status besides pneumonia, fever and dehydration. He said p. 440 confusion could also be caused by metabolic disturbances from kidney or liver failure, drug induced narcosis, inter cranial lesion or brain dysfunction.

[67] Boushy gave evidence that Dr. Mueller had noted a decreased level of consciousness. He said p. 778 that any emergency physician would be concerned about a decreased level of consciousness for two days and would want to determine its cause.

[68] Boushy agreed that Joshi had to consider possible causes of the confusion other than fever and dehydration p. 765. He said possible causes could include an infectious process p. 766, including infection in the brain.

[69] Boushy said if Barber did not have a fever and yet he had a decreased level of consciousness "that would change everything p. 768. If you rehydrate and the patient does not improve/ you have a patient that is still confused, then I agree we need to start looking for other diagnoses. If the fever …does not correlate with a decreased level of consciousness, then it is our obligation to make sure nothing else is going on, such as an inter-cranial concern p. 769. [Emphasis Added]

[70] Powis agreed a reduced level of consciousness could be a sign of inter-cranial pressure p. 1404.

[71] Joshi said p. 954 the confusion brought about by meningitis is caused by a progressive inflammatory process within the meninges surrounding the brain. Swelling is the brain's response to infection. Confusion caused by brain swelling is not transient.

[72] Fong said on the morning of February 13, p. 398 Barber already had a constellation of symptoms, including fever and altered level of consciousness, making it most important for Joshi to be on the lookout for meningitis and to exclude meningitis p 398.

[73] Fong said: "Once we see someone with fever and altered cerebral consciousness, meningitis is one of the major things we teach medical students and interns to rule out" p. 397.

[74] Boushy agreed p. 789 that Barber's mental status was altered at 9:55 AM on February 13, 2006.

[75] Boushy said since bacterial meningitis is a dysfunction of the brain due to infection or inflammation p. 648, patients with it present with many of the following, a history of a sustained altered mental status that does not improve with treatment, headache, photophobia. They typically appear and feel very unwell. Most of the time [they have] low blood pressure and a high heart rate, high respiratory rate. On examination, they often but not always have neck stiffness. For meningitis one looks for confusion, vagueness, inability to follow instructions. [Emphasis added.]

Additional Reasons to Consider Meningitis

[76] Fong said p. 402 having suspected that Barber had pneumonia, Joshi erred in failing to consider that bacterial meningitis can be a complication of pneumonia.

[77] Powis said Barber originally presented with fever and a decreased level of alertness p. 1406. Given Barber's presentation, his history of fever and decreased level of consciousness [loc] x 2 days, his presentation in the ambulance as increasingly diaphoretic, with elevated blood pressure, and at triage, as ashen in colour and non-communicative, the secondary nursing report noting a respiration rate at 9:55 AM at 29-35 breaths per minute, indicating that at 9:55 AM Barber was not oriented to person, time and place p. 114 and that the note on the Hospital Chart at 10:00 AM that his respiration rate was 40 breaths per minute, there was sufficient clinical evidence to consider, among other diagnoses, a differential diagnosis of bacterial meningitis.

Meningitis can be fulminant [rapidly progressive with significant clinical impact] p. 1402. Meningitis is a serious condition that should be ruled out to the extent possible before discharge p. 1407.

[78] Fong said he instructs his medical students that where there is a decreased level of consciousness, so long as there are no contraindications, they must do a lumbar puncture pp. 399, 400-401, 432, 454.

[79] Counsel for the Defendants submitted that in opining that Barber needed a lumbar puncture, Fong was incorrectly assuming that Barber had a decreased level of consciousness at 10:00 AM and that Joshi had not conducted a complete neurological assessment Fong did not opine that on the neurological results actually obtained by Joshi,[ie that he did not have a decreased level of consciousness], a spinal tap was necessary. Therefore, there was no evidence upon which this Court could properly conclude that a spinal tap was necessary on the morning of February 13, 2006.]

[80] Joshi agreed that if there were even the slightest suspicion of meningitis p. 1055, testing and treatment for meningitis should have been given pp. 1003, 1054-55. "If I see a patient and I feel they have signs and symptoms consistent with meningitis, I will perform a lumbar puncture." However he did not include meningitis in his differential diagnosis or test for it because he said Barber did not have signs and symptoms of meningitis.

[81] Fong opined pp. 476-477 that if a spinal tap had been done on the morning of February 13, the cerebral spinal fluid would have shown evidence of meningitis and antibiotic treatment for meningitis would have been started.

[82] Powis opined p. 1413 that had a lumbar puncture been done at 10:00 AM, bacteria would have been detected in the cerebral spinal fluid.

Standard Treatment for Meningitis

[83] Fong gave evidence pp 468-469 that if bacteria in the spinal fluid had been detected, the standard treatment for meningitis in 2006 would have been started: intravenous administration of Ceftriaxone, Vancomycin and Decadron [either at the same time or just before the administration of Ceftriaxone and Vancomycin]. Barber should have received that treatment shortly after 10:00 AM.

[84] In summary, Fong opined for the reasons set out above that Joshi failed to meet the Standard of Care. Boushy opined [again assuming Barber's skin colour at 10:00 AM was normal, he had no neck stiffness, that he had a respiration rate of 20, no photophobia and the other facts asserted by Joshi at his discovery] p. 646, 648 that it was first acceptable to treat Barber for fever and dehydration to see if his confusion would clear and then if it did not clear, a lumbar puncture would be necessary.

10:20 – 12:30

Treatment Plan and Investigations Ordered After the 10 AM Assessment

[85] Not having suspected meningitis, but having made a provisional diagnosis of pneumonia at the 10:00 AM assessment, Joshi prepared a treatment plan suitable for pneumonia. He also ordered a further investigation to rule out cardiac problems.

Further Investigation

[86] For the investigation of pneumonia, Joshi said he ordered a chest x ray. He ordered blood cultures [to capture and grow bacteria, and eventually to provide sensitivities to medication and sputum cultures [to identify the cause of the infection]. For the suspected cardiac condition, Joshi ordered cardiac blood panel testing, (troponin) including electrolytes and cardiac enzymes.

[87] He did not order testing of blood gases p 927 to see how well Barber was oxygenating.

[88] He did not order any investigations to rule out meningitis [a lumbar puncture].

Treatment Plan

[89] For the suspected pneumonia, Joshi ordered the administration of 400 mg Avelox/Moxifloxicin, an antimicrobial, bacteriocidal antibiotic Exhibit 1 p. 109. Joshi said Avelox provides broad spectrum coverage p 917-918.

[90] For fever, he ordered Tylenol and Ibuprofen.

[91] Although Joshi said he did not consider Barber to be clinically dehydrated, he ordered treatment for dehydration, a saline bolus pp. 919-920, 928.

Treatment

[92] The saline bolus for dehydration was started shortly after 10:00 AM. Administration of intravenous Avelox for pneumonia was started at 10:20 AM. Exhibit 1 p. 115. Tylenol, for fever, was administered at 10:30 AM.

Receipt of Test Results

[93] At 10:24 AM pp. 80, 87, lab results became available showing that Barber had a white blood cell count of 14,900. [Brankston said a normal white blood cell count is 4000-11,000] pp. 1332, 1338.

[94] The chest x ray showed increased density in Barber's left lung.

11:25 AM

[95] At 11:25 AM, according to the nursing records, Barber continued to be diaphoretic. His respiration rate was 42 breaths per minute and shallow [up from 22 breaths per minute at triage at 9:17 AM, 29-35 at 9:55, down from the 20 Joshi had recorded at 10:00 AM, up from 40 breaths per minute a nurse had recorded at 10:00 AM]. His temperature was 36.2°C Exhibit 1 p. 116. The nurse noted "Pt remains alert." [Fong said that meant he was not in a coma.]

[96] At 12:05 PM, administration of a second round of saline was started.

Second Assessment 12:30 PM

[97] Joshi's second assessment of Barber was at 12:30 PM.

[98] Boushy said that reassessment was to see whether there had been overall improvement.

Information Available to Joshi at 12:30

[99] At his 12:30 assessment, Joshi said he had the clinical observations /treatment notes. He reviewed the chest x ray results p. 936, the results of Barber's cardiac blood work, the nursing notes, including the nursing notes made at 11:25 AM.

Charting at the 12:30 Assessment

[100] Joshi's notes of the 12:30 PM assessment are at Exhibit 1 p. 109. Joshi recorded "a slight improvement" in Barber's breathing. He did not record in the chart that Barber had an improvement in his mental status or that his mental status was normal [despite his earlier mention of "confusion" at 10:00 AM] He said p. 943 "there was no abnormality there." He said the reason he did not record any of Barber's vital signs other than his temperature [36.1°C] was that they were normal.

Examination

Consideration of Barber's Respiration Rate

[101] Joshi said at 12:30 PM he did a complete assessment of Barber's respiratory system, p. 941. His respiratory rate was still normal.

[102] Joshi said he did not record Barber's respiration rate because it had not deteriorated. "We do not document every normal finding." pp. 941-942, 1040, 1042.

[103] Although he said he did consider the nurse's 11:25 AM note of a respiration rate of 42 breaths per minute, he said he did not think it was necessary for him to record or account for the discrepancy between what he said his reading was and the nurse's reading of 42.

[104] Boushy said p. 809 as an ER physician, where a respiration rate of 42 had been recorded by a nurse at 11:25 AM, he would "absolutely" have wanted to know about it. If Joshi had seen it, his job would have been to dispute it on his reassessment.

12:30 PM - Consideration of Mental Status

[105] Joshi said that at 12:30 PM Barber's mental state and level of cognition were normal p. 1049. Whatever confusion he may have had at 10:00 AM was no longer present p. 1049.

[106] When asked specifically how he knew that Barber was not confused at 12:30 PM, Joshi said:

> because if the confusion was still there, if someone has persistent confusion, then the line of investigations would have gone down a different line, a different path...If someone has persistent confusion and it is not resolving with fluids or antibiotic therapy and if it is the same or getting worse, then you are going to look for other causes or potential causes of the confusion. Boushy said p651 "if we think a patient has altered mental status, usually bacterial meningitis, whatever you do to that patient, that altered mental status does not change.

[107] He further conceded that he did not do a full formal neurological assessment during his 12:30 PM assessment of Barber. When he was asked about whether he had a specific memory of Barber's confusion having cleared at 12:30, Joshi answered p. 1050:

> "In combination with what I have read and what I have documented, yes, because if there had been confusion there is no reason for me not to investigate further as that is the standard to which I practice."

[108] Boushy was cross-examined p. 689 on the following sentence in his report referring to Joshi's 12:30 PM assessment:

> In fact, Dr. Joshi had reassessed Mr Barber and found dramatic improvement..."
> [Emphasis added]

[109] Boushy gave evidence at trial p. 691 that he had reached that conclusion from reading Joshi's discovery transcript, "not so much from the face sheet in the emergency chart". Boushy said that Joshi believed that Barber's condition had improved from the time of the 10:00 AM assessment as a result of the treatment Barber had been given...

[110] While Boushy initially attempted to defend his p. 691 statement, in his report about "dramatic improvement" in Barber's condition by 12:30 p.m., later in his evidence he attempted to distance himself from that comment.

No Suspicion of or Testing For Meningitis

[111] At his 12:30 PM assessment, Joshi did not consider the possibility of meningitis p. 957. He did not consider doing a lumbar puncture. Again, he said Barber had none of the signs or findings or of meningitis.

Consideration of Referral to a Specialist or Hospital Admission

[112] Joshi said he did not consider referring Barber to a specialist for admission to the Hospital because he said Barber had had a positive response to treatment.

[113] Boushy gave evidence that ER doctors have only two options: either to discharge the patient or to consult with a specialist to consider admitting the patient to the Hospital.

Further Orders

[114] Joshi ordered a repeat testing of Barber's troponin [cardiac marker] levels.

Opinions on Standard of Care at 12:30

[115] Brankston opined that Joshi fell below the Standard of Care on February 13, 2006 in discharging Barber from the Hospital when he should have been admitted p. 98. He referred to Barber's presentation in the ambulance en route to the Hospital and upon his arrival at the Hospital. He said community acquired pneumonia has a wide spectrum of severity. Barber was sicker than ER doctors would normally see. His skin colour was ashen. He was sweating profusely. On February 13, between 9:00 AM and 2:40 PM, Barber's respiratory rate fluctuated significantly to a high of 42 breaths per minute. At 10:00 AM, Joshi had noted Barber to be confused. During his ER visit Barber had an elevated white blood cell count indicative of infection. Brankston said the Standard of Care is to admit a confused patient with community acquired pneumonia to the hospital.

[116] Boushy, assuming that what Joshi had said at discovery was correct, including that Barber's condition had improved between 10:00 AM and 12:30 PM that his skin colour was normal, that his mental status was normal, that he was not confused and that his respiration rate was 20, opined that Joshi's actions at 12:30 PM met the Standard of Care.

12:30-2 PM

[117] Between 12:30 PM and Barber's discharge at 2:40 PM no one recorded any vital signs other than temperature on the Hospital chart.

2:00 PM Joshi's Third Assessment

[118] As noted earlier, Joshi said he would have already discharged Barber at 12:30 PM but for his decision to do further testing of Barber's troponin [cardiac marker] levels.

Information Available to Joshi at 2 PM

[119] Joshi reassessed Barber at 2:00 PM. At that time, the results from the further cardiac blood work ordered at 12:30 PM had become available. Barber's troponin levels were normal.

Examination

[120] Again during his 2:00 PM assessment, Joshi said he did not observe Barber to have an elevated or abnormal respiration rate p. 903. He said that Barber was talking to his guards, able to speak normally. Joshi said he explained to Barber the treatment he would be getting after discharge.

No Consideration of Meningitis

[121] Joshi said at 2:00 PM he did not consider ordering a CT scan. It was not a test or investigation that would normally be done. Had he ordered a CT scan, he said a radiologist would not have approved his request.

[122] Joshi said in deciding whether it was safe to discharge Barber from the Hospital, he used the pneumonia severity index or CURB. Again, Joshi made no note on the chart of using either index, or of the score that he said he must have given. When counsel for the Plaintiffs asked him in cross examination what score he gave Barber, he replied:

> "I scored him at a level whereby it was appropriate to treat him as an outpatient... I scored him at a point ...I felt it was appropriate for discharge There would be no benefit to be gained by scoring him at a level that requires inpatient treatment and then I choose to discharge him."

No Consideration of Referral

[123] Joshi said p. 957 he did not consider consulting with internal medicine because Barber's clinical condition, his response to treatment, his lab work, his investigation findings, the risk tools [i.e., the pneumonia severity and CURB index] were all supportive of outpatient treatment.

2:00 - 2:40 PM

[124] There is no record of any vital signs taken at either 2 or 2:40 PM

Discharge 2:40 PM

[125] Barber was discharged from the Hospital ER at 2:40 PM to be returned to the Detention Centre.

[126] Exhibit 1 p. 109 contains Joshi's discharge orders: Avalox 400 mg orally, Tylenol orally for fever, maintain fluids, follow up with family doctor.

[127] Boushy acknowledged p. 813 that at the time of discharge, Joshi did not record any vital signs on the chart. He said p. 812 there should have been a set of discharge vital signs on the chart and at p. 815 "I do agree with you that a full set of vital signs should have been done at the end."

February 13, 3:30 PM to 10:40 PM - Barber's Course at Detention Centre

[128] At 3:30 PM, Barber arrived back at the Detention Centre.

[129] Counsel for the Defendants relied heavily on the records of the Detention Centre made during the interval between 3:30 PM and 10:40 PM that night, when he was taken from there to be returned to the Hospital. They referred to the evidence of two Detention Centre nurses [Barsow and De Toma] and of two Detention Centre guards, [Rossley and Crawford].

[130] They submitted that that evidence provided a basis upon which this Court should find that between 3:30 and 10:40 PM on February 13, Barber's temperature, respiration and mental status were normal and therefore that Joshi's evidence about what he said he had observed at the hospital during his 12:30 PM and 2:00 PM assessments should be accepted.

[131] Fong noted that although a Detention Centre nurse recorded at 3:30 PM in Exhibit 1 p. 58 that Barber's respiration was 16 breaths per minute, she also noted that his breathing was "labored"/abnormal. He was sweating profusely. His blood pressure was elevated at 160/90.

[132] Fong explained Barber's temperatures recorded at the Detention Centre by saying that while at the Hospital, Barber had received double the usual dose of Ibuprophen as well as extra strength Tylenol. He doubted that that medication would have worn off by 3:30 PM or even by 8:00 PM p 531.

[133] Fong also said p. 533:

> We do not consider fluctuations in temperature significant unless they have sustained normal temperature for 24 hours. It's common …nearly every patient do not have [a] temperature that stays up high with an infectious disease… Temperature is normally like this (indicating). So a normal temperature, we do not consider a patient as being afebrile or significantly responds to treatment unless the temperature stays normal more than 24 hours…

[134] Fong also said p. 542 state and levels of consciousness don't stay static unless patients are in extremely critical condition, in a very deep coma or in a late stage of illness. Some fluctuations occur.

February 13, 6:16 PM Recall for Gram Positive Blood Culture

[135] By 6:16 PM on February 13, Barber's blood stain tests taken in the ER earlier that day had shown gram positive cocci in Barber's blood pp. 129, 130. [Bacteria are either cocci or bacilli depending on their shape. Gram positive cocci are most likely streptococcus pneumonia/pneumococci, and Barber's suspected pneumonia was therefore most likely being caused by streptococcus bacteria.] A Dr. Mazzoddi apparently unsuccessfully tried to contact authorities at the Detention Centre and then called Annette who was able to reach someone at the Detention Centre and to convey Dr. Mazzoddi's message that Barber should be immediately returned to the Hospital because of a gram positive cocci gram stain result. Nurse Barsow then called Dr. Mazzoddi.

[136] Powis said p. 1410 knowing of [suspected] pneumonia and gram positive cocci in his blood "you would start thinking it might be streptococcus pneumonia bacteria. He said that is a dangerous pathogen pp 1388-89.

[137] Fong said p. 567: "if someone with pneumonia is reported to have gram positive cocci in their blood...you can make an educated assessment that there is a 90% chance it is going to be pneumococci."

8:15 PM

[138] Nurse Barsow made a note Exhibit 1 p. 59 at 8:15 PM on February 13, 2006 including the following: "This writer contacted Dr. Mazzoddi. He has requested the inmate return to hospital tonight for a repeat blood culture, potential for admission? need for specialist. Dr. Mueller contacted re above and he concurs that inmate should return to hospital..."

10:30 PM

[139] At 10:30 p.m., Nurse De Toma charted: "no complaints. Although the Detention Centre Chart contains no note of any conversation, she gave evidence that when she spoke to him, he had no complaints".

[140] She charted that Barber was resting and turning himself independently. De Toma gave evidence that she could not recall Barber being in respiratory distress. However, she did not record details with respect to whether his breathing was laboured or his mental status.

February 13, 2006 10:40 PM

[141] At around 10:40 PM, guards Rossley and Crawford, left the Detention Centre to return Barber to the Hospital.

<u>Barber Returns to the Hospital</u>

[142] Barber arrived back at the Hospital at 11:43 PM on February 13, 2006.

[143] At 11:59 PM, a triage nurse noted Barber to be a "recall for gram positive cocci blood culture." His vital signs were recorded as follows: temperature 36.5°C, pulse 79, respiration rate 18, blood pressure 166/111, breathing regular. Contrary to the note taken at 3:30 PM at the Detention Centre, his breathing was noted to be effortless. His skin tone was noted to be normal. He was noted to be alert, oriented and cooperative.

[144] Fong opined p. 549 that the triage nurse had erred.in her assessment of Barber's condition Exhibit 1 p 142. He said Barber should not have been placed in the minor care area of the hospital ER in a room without telemetry.

[145] The Hospital chart including Exhibit 1 p. 144 contains no record of any vital signs being taken between 11:59 PM. on February 13 and 5:30 AM on February 14.

[146] Boushy said pp. 831-832 given that Barber was a recall patient [for gram positive cocci blood culture], the Hospital staff, including the defendant Shergold, should have paid more attention to taking his vital signs.

Shergold's First Assessment at 3:15 AM on February 14, 2006

[147] Shergold was the ER physician responsible for Barber's care during the overnight shift, February 13-14, 2006.

[148] Shergold did not remember how he came to see Barber at 3:15 AM on February 14, 2006 more than three hours after he had been triaged. Of Barber, he said: "I don't have a specific recollection. I have some vague memory of him. I remember seeing him in the garb and with the correctional officers because that is not a usual patient. I remember that aspect of things."

[149] Because of his lack of specific recollection, Shergold's evidence was based largely on his usual practice and on his reconstruction of what he thought must have occurred.

Information available to Shergold at 3:15

[150] At his 3:15 AM assessment of Barber, Shergold said he likely had access to the Emergency Services Call Back Record, the Health Care Consultation Record, the Patient Screening for Respiratory Illness and the triage note made around 11:59 PM on February 13. Exhibit 1 pp. 139, 140, 141, 142, 144. Shergold said when he saw Barber he was aware that he had been seen in the ER at the Hospital on February 13. He knew Barber had been recalled to the Hospital because of a "gram positive cocci blood stain result." He knew a provisional diagnosis of pneumonia had been made. However, Shergold gave evidence pp. 1079-1080, 1168-1170 that when he saw Barber at 3:15 AM on February 14, he had not received or reviewed any of Barber's Hospital records from Barber's February 13 attendance at the ER.

Shergold's Charting

[151] In the Hospital chart at 3:15 AM, Shergold made no direct reference to Barber's mental status or his level of consciousness.

[152] On Exhibit 1 p. 144 he wrote: "46 year old unwell appearing male with gram positive cocci in his blood."

Shergold's Examination – 3:15 AM

[153] After reviewing the relevant documents, Shergold said he examined Barber. Shergold said he started with Barber's head and neck p. 1094: "I'm going to ask him to move his neck in different ways to see if there is any nuchal rigidity...a medical term for stiff neck: pp. 1094-1095. He said he always asks his patients to take their chins and put them on their sternums to see if that elicits any pain. He asks them to put their ears to their shoulders at 45 degrees on both sides. He feels their necks to see whether they are supple or hard and rigid p. 1095.

[154] While he was conducting his examination, he said he would have been talking to Barber. He would have asked Barber about neck pain or headache. He would have examined his eyes. p 1096. He wrote pupils equal and reactive to light.

[155] He said p. 1097 Barber was not photophobic. In his examination of the head and neck, he did not find any pathology except dry mucosa.

[156] Shergold said he examined Barber's chest p. 1097. He listened for crackles and reduced air entry. Because he wrote "find old chest x-ray," he said that Barber must have told him that he had had a chest x-ray. Shergold wrote: "chest clear. Air entry right equals left."

[157] He said he then did a cardiovascular examination pp. 1100-1103. He noted that Barber's cardio vascular system was normal.

[158] He examined Barber's abdomen and extremities and wrote that they were normal.

Shergold's Neurological Examination – 3:15 AM

[159] Fong pp. 459, 460 said in part because Barber had been recalled because of a gram positive cocci blood stain that Shergold needed to look for signs of meningitis, to do a complete neurological assessment, and to make a differential diagnosis.

[160] Shergold agreed p. 1227 that when a patient is recalled to hospital because of a positive gram stain, meningitis is one of the differentials to be considered. He said meningitis was in his differential diagnosis. However, when he examined him, Shergold did not think Barber had meningitis because he said he did not observe Barber to have the signs of meningitis.

[161] Again, Shergold did not note Barber's level of consciousness in the Hospital chart at 3:15 AM.

[162] Shergold made no note of normal mental status at 3:15 AM.

[163] Shergold said p. 1104 at 3:15 AM he had no concerns about Barber's mental status. Had Barber not been communicating properly, or had he been confused, he/Shergold would have moved him to a section of the ER where he would have been monitored more. "The fact that I didn't move him gives me some confidence that I wasn't worried..." p. 1104.

No Suspicion of Meningitis – No Spinal Tap or CT Scan

[164] Fong said at 3:15 AM p. 461, if there was no contraindication, he would have ordered a spinal tap 315. If Barber's Glasgow Coma score had been too low, then he would have recommended a CT scan.

[165] Shergold said pp. 1150 he did not think that Barber had meningitis. He didn't have a headache or neck stiffness. Shergold said that if he had had a strong suspicion of meningitis, he would have administered 2 Grams of Ceftriaxone and 1 G Vancomycin to Barber. If he had had a huge suspicion he would have done a Lumbar Puncture, put Barber on a monitor and consulted with an internist. There were no indications to do a lumbar puncture. Barber did not appear to be very sick. He did not have a headache. He was not vomiting. He had no photophobia.

Opinions Re Standard of Care at 3:15 AM

[166] Based on the assumption that Shergold's evidence at Shergold's examination for discovery was correct, including that Shergold did a full examination, including a neurological examination, that Barber was not confused, that Barber did not appear to be very sick, that he had no altered mental status, headache or photophobia, Boushy opined that at 3:15 AM Shergold did an appropriate assessment and that he met the Standard of Care.

[167] Fong opined that he did not. He said at that time Shergold should have conducted a thorough examination, included meningitis in his differential diagnosis, done a lumbar puncture to rule it out and given appropriate treatment for meningitis.

[168] Fong said given Barber's presentation at 3:15 AM p. 467 he would have started treatment for meningitis.

Shergold's Investigation and Treatment Plan at 3:15 AM Shergold's Orders at his 3:15 Assessment

[169] At his 3:15 AM assessment, Shergold ordered further testing, including an ECG and a urine culture. He ordered administration of intravenous saline. Instead of 400 mg of Avelox, [the antibiotic that Joshi had ordered on February 13 to be given orally at about 10:20 AM on February 14], Shergold ordered that Barber receive 1 gram of another antibiotic Ceftriaxone. [1

gram of ceftriaxone is standard treatment for pneumonia, 2 grams along with other medications for meningitis]. Fong p. 466-467, Boushy p. 834, Powis pp. 1332, 1366. Shergold p. 1147.

[170] At 4:10 AM on February 14, on Shergold's orders Barber received 1 gram of Ceftriaxone intravenously. Therefore, Barber had received 400 mg of Avelox I.V. at 10:20 AM on February 13, [the correct dose recommended for meningitis as second line treatment if the standard treatment Decadron +2 g ceftriaxone +1 g Vancomycin-cannot be given,] and at 4:10 AM on February 14, Barber had received 1 g of ceftriaxone intravenously. [about half the dose of Ceftriaxone, to be given along with Decadron and Vancomycin as the Standard of Care for meningitis.]

[171] As a result of Shergold's order made at 3:15 AM, at around 10:20 AM on February 14, Barber did not receive the second dose of Avelox that Joshi had ordered on February 13 [to be given orally at about 10:20 AM on February 14].

Receipt of Test Results

[172] When he received the results of the ECG he had ordered at 3:15 AM, Shergold determined that Barber had had a heart attack in the past.

[173] From the blood results he had ordered at 3:15 AM Shergold learned that Barber's white blood cell count was 18,400 [up from 14,900 at 10:24 AM on February 13, Brankston said, consistent with a worsening infection].

[174] However, as mentioned earlier, Shergold maintained that he did not have the records from the February 13 attendance at the Hospital [including the 10:24 AM February 13 white cell count of 14,900] for comparison purposes.

5:00 AM-6:40 AM

[175] At 5:00 AM, a nurse noted in Exhibit 1, p. 143, that Barber was unable to stand or void without the assistance of his guards.

[176] At 5:30 AM, Exhibit 1, p. 144 a nurse noted that Barber's blood pressure was 215/128 and 210/120. His respiration rate was 28. His temperature was 36.3°C. Shergold ordered a nitroglycerin patch and the oral administration of 50 mg of Atenolol to lower Barber's blood pressure, saying that he did not want to drop it too quickly. Before prescribing Labetalol he wanted to see whether the Atenolol would work. He said he did not consider Barber to be having a hypertensive urgency or emergency at that time.

[177] Shergold said he left an order for the nurses to take a repeat blood pressure reading. He expected that they would notify him if the medications he had ordered were not working.

Consideration of Referral to a Specialist

[178] Shergold said p. 1133 that he did not consider referring Barber to an internal medicine specialist before 6:45 AM because his condition was stable.

[179] On the assumption that all the information Shergold provided on his Examination for Discovery was correct, including that his mental status and appearance were normal, Boushy opined p.143 that at 5:30 AM Shergold gave appropriate medications and met the Standard of Care.

6:40 AM to 8 AM

Opinions Re Referral to a Specialist

[180] Dr. Brankston opined that rather than waiting to speak with a specialist at 8:00 AM., Shergold should have been more aggressive in seeking" a pretty urgent" internal medicine consultation.

[181] Counsel for the Defendants submitted that Brankston failed to identify when and why Shergold should have requested the consultation.

[182] Based on the assumption that Barber's mental status and appearance were normal and on the correctness of other information provided by Shergold on his Examination for Discovery, Boushy opined that Shergold did not fall below the requisite Standard of Care in not referring Barber to an internal medicine specialist before 6:40 AM pp. 725-6. He said pp. 830-831, ER physicians regularly care for patients who have been recalled with a positive gram stain, without involving specialists.

6:40 AM to 6:45 AM

[183] At 6:40 AM, Shergold reassessed Barber. Shergold said he believed that at that time, he must have had positive information from the nurses. Based on his standard practice, since he made no orders, he believed he must not have had any concerns.

Order for Barber to See Specialist

[184] At 6:45 AM, five minutes later, Shergold said he thought that Barber's clinical picture had changed.

[185] Although Shergold noted that Barber's breathing rate had increased, he did not record a specific respiration rate on the Hospital chart. He said that he thought Barber appeared to be getting sicker. Shergold made an order for "Medicine to see"/ i.e., he requested a consultation with an internal medicine specialist. He said that at that time pp. 1137-1138 he expected the nurses to page the internal medicine physician who was on call.

7:30 AM Shift Change

[186] Shergold said that sometime before the usual hospital shift change at 7:30 AM p. 1141, he would have asked that Barber be moved from the minor care area in the ER to the acute care area in the ER, to be seen by a specialist and to be monitored in a telemetry room. Exhibit 1 pp. 143-149. Shergold said he did not intend to transfer Barber's care to another ER physician at that time. [He was intending to transfer Barber's care to an internal medicine specialist.]

7:40 – 8:15 AM

[187] Around 7:40 AM, about 55 minutes after Shergold had written "medicine to see," Barber was moved to an acute care area in the ER to be seen by a specialist.

[188] At 7:45 AM, a nurse who had just started work on the 7:30 shift in the acute care area of the ER recorded the first complete set of vital signs taken at the Hospital since 11:59 PM on February 13, Exhibit 1 p. 149.

[189] At 7:45 AM, Barber's temperature was 38.6°C, his blood pressure 229/135. Barber was noted to be very lethargic. Shergold was notified [although his regular shift had already ended].

Management of Blood Pressure

[190] At 8:00-8:15 AM, Shergold ordered administration of one dose of I.V. Labetalol to lower Barber's blood pressure. He also ordered further blood cultures. Shergold said he was frustrated that he had not yet received any response to his 6:45 AM request for Medicine to see Barber. He asked for internal medicine to be paged.

[191] At 8:15 AM Barber received one dose of Labetalol intravenously.

[192] Brankston opined pp. 97, 101 that Shergold did not take sufficient steps to monitor or control Barber's significant hypertension. He ordered only one dose of Labetalol. [Labetalol can be given every 15 minutes or by a constant infusion.] In view of Barber's bacteremia and his deterioration, he should have been receiving Labetalol at a greater frequency. His blood pressure should have been monitored every 5-10 minutes.

8:20 AM

[193] By 8:20 AM, Shergold had completed his regular shift at 7:30 AM, almost an hour earlier. The Hospital file contains a notation, Exhibit 1, p. 149, that at 8:20 AM Shergold spoke by telephone to a Dr. Barshan, a specialist in internal medicine, and wrote "query meningitis" on the chart.

[194] Shergold said he thought then that meningitis might be a possibility. He said p. 1150 that prior to that time he had not suspected meningitis or considered doing a lumbar puncture p

1120 because Barber had had no headache, no neck stiffness, no altered mental status, no photophobia. His blood pressure had not been decreasing but had been increasing.

[195] Shergold said at 8:20 AM p. 1152 he thought that someone from internal medicine would have been along urgently [within 15 minutes] to care for Barber. He was under the impression p. 1154 that Dr. Barshan, would be taking over Barber's care. He would not have left the Hospital otherwise. He did not see Barber after that time.

[196] Brankston, on the assumption that Shergold had been advised that someone from internal medicine would be seeing Barber imminently, opined p. 272 that in that regard, Shergold met the Standard of Care.

8:25 AM

[197] Once meningitis was suspected, it was anticipated that Barber would be moved to a negative pressure room.

[198] At 8:25 AM, one of the Detention Centre guards wrote: "moving from ER room no. 4 to negative pressure …specialist to see inmate as soon as possible" p. 91 Exhibit 11 p. 852.

Events After Shergold's Last Involvement in Barber's Care

[199] At 10:00 AM, more than an hour and a half after Shergold's call with Barshan at 8:20 AM, and three hours and 15 min. after Shergold wrote "medicine to see" on the chart, Dr. Glazer, a specialist in internal medicine, saw Barber. He immediately diagnosed meningitis, ordered a CT scan and treatment for meningitis [2 G ceftriaxone and 1 G of Vancomycin].

[200] At 12:40 PM, Barber's temperature was recorded at 39.3, his blood pressure at 247/136, his respiratory rate at 50 breaths per minute.

[201] The CT scan results showed increased pressure in Barber's brain. He was given more antibiotics.

[202] At 2:40 PM Dr. Glazer asked for a consultation with an ICU doctor and ordered that Barber be transferred to intensive care.

[203] Barber's condition continued to deteriorate. By 3:00 PM, Barber's Glasgow Coma Scale assessment was 8/15. He was" barely responsive." Differences were noted in the sizes of his pupils.

[204] At 4:45 PM his blood pressure was 255/156. Intravenous Labetalol was administered.

[205] At 6:20 PM Barber's intra-cranial pressure was continuing to increase. His blood pressure had decreased to 154/92, his circulation was slowing down, his skin was noted to be

mottled. His oxygen concentration was low [76%]. Administration of Labetalol was discontinued.

[206] At 7:15 PM, 4.5 hours after Dr. Glazer had ordered Barber's transfer to the Intensive Care Unit, Barber was finally transferred there. By then, he was acidotic and going into respiratory failure.

[207] Shortly thereafter, Barber suffered his first cardiac arrest. He was resuscitated.

[208] After he suffered a second cardiac arrest, he was again resuscitated and intubated.

[209] Until life support was removed on February 17, Barber was comatose and gravely ill.

[210] By the time Annette was allowed to come to the Hospital to see Barber, he was already in a deep coma.

February 17, 2006

[211] On February 17, Barber's pupils were fixed and non-reactive to light. His caregivers concluded that he had no brainstem activity and no possibility of neuro recovery.

[212] At 5:51 PM on February 17, 2006, Barber was removed from life support and was declared dead.

Post Mortem Report

[213] The cause of death on the post mortem report was noted to be bacterial meningitis with cerebral edema and herniation.

ANALYSIS

Liability Issue One - Breach of the Standard of Care

General Considerations

[214] The Hospital chart was made contemporaneously before Barber's outcome was known and before this litigation was commenced. In my view, contemporaneous records are usually the strongest evidence about what actually happened [in this case at the Hospital on February 13 and 14, 2006].

General Comments on the Evidence on Standard of Care and the Reliability and Credibility of the Witnesses Who Gave Evidence Thereon

Dr. Joshi's Evidence

Joshi's Charting

[215] As noted earlier, Joshi's entries on the Hospital chart recording his observations and the details of his assessments of Barber in the ER on February 13, 2006 are incomplete, to say the least.

[216] Joshi claimed that he documented all salient positive and negative findings p. 990 He said: "We will document if there are salient positive or negative findings that are relevant to their presented complaint and their course within the emergency department." However, he did not chart many of the matters that in my view were and are very salient, indeed critical, to the resolution of the issues in this case. For instance, Joshi's counsel have asked this Court to conclude that Barber did not have an altered mental status at 12:30 PM on February 13. Despite Joshi's own note at 10 AM that Barber was confused, and despite the fact that he failed to note Barber's mental status on the chart or to note that his confusion had cleared at 12:30 PM, they have strongly urged this Court to conclude that by 12:30 PM and thereafter , Barber's mental status was normal.

[217] The uncertainty caused by Joshi's failure to record all salient positive and negative findings relevant to Barber's course has left this Court in the position of having to make critical factual findings on an incomplete record. It goes without saying that Joshi's defence would have been much stronger had he documented on the Hospital Chart what he said he must have done and what he said he must have observed. The uncertainty could have been avoided had Joshi noted the observations and considerations on the chart that he now says he made.

Joshi's Present Recollection

[218] By the time he gave his evidence at trial, Joshi had been involved in the Hospital's investigation into Barber's death. He had given evidence at a Coroner's Inquest and, about three years later, had been examined for discovery in this litigation. In preparation for this trial, he had reviewed his Discovery transcript. He candidly admitted the following during his evidence: "It is difficult to remember exactly what I remember then, or what I remember in terms of what I have recounted ... Am I just recounting or do I truly remember?"

[219] I have concluded from that answer, his evidence as a whole and the manner in which he gave his evidence at trial, that much of Joshi's evidence was reconstructed and based, not on his present recollection of events, but on what he had said earlier and on his usual practice. Much of his evidence was about what he thought he would have observed [rather than about what he remembered observing], and about what he thought he would have done, given his usual practice and his own perceived standards [rather than about what he remembered doing].

[220] This Court was not in any position to determine the extent of his reliance on his discovery transcript This Court, of course, did not and should not have had Joshi's complete discovery transcript.

Evidence of Custom/Invariable Practice

[221] I recognize that in a busy hospital ER it is difficult to find the time to record every salient finding. I also appreciate the strength and importance of evidence of customary practice and I have carefully considered the evidence and the case law with those considerations in mind.

Reconstruction of Evidence

[222] I have already noted Joshi's evidence that Barber's mental status at 12:30 and at 2:00 PM on February 13, 2006 must have been normal because if Barber's mental status had been abnormal, he would have acted differently. In effect, in reconstructing what he must have done, he reasoned that given his own standards and given that the Standard of Care would have required him to act differently than he did had Barber`s mental status been abnormal, Barber's mental status must have been normal.

[223] That type of reasoning and reconstruction was of little assistance to this Court. For me to adopt that reasoning would require me to assume in Joshi's favour the answers to the very questions that I must answer/decide. Instead, I have borne in mind all of the evidence and the relevant case law, including the law on usual practice.

Dr. Shergold's Evidence

Shergold's Present Recollection

[224] As noted earlier, Shergold remembered Barber's prison garb but little else about his own observations of, interactions with, and treatment of Barber between 3:15 AM and 8:20 AM on February 14, 2006.

Shergold's Evidence of Usual Practice

[225] Again, much of Shergold's evidence was a reconstruction based on what Shergold said was his standard practice, on what he thought he would have observed and done, not on what he remembered observing and doing on February 14, 2006.

[226] Again he reasoned that if Barber's mental status had been abnormal, he would have been required to act differently. Since he did not act differently, Barbers mental status must have been normal.

[227] Again, I have considered that evidence of usual practice can be given much weight.

[228] Again, I have considered all of the evidence, including the evidence on usual or invariable practice and the case law in that regard.

The Evidence of the Detention Centre Witnesses

[229] Dr. Mueller, the physician at the Detention Centre who examined Barber before he ordered him sent by ambulance to the Hospital on the morning of February 13, might have been able to shed light on Barber's history of fever and level of consciousness However, he was not called to give evidence.

[230] The Detention Centre nurses and guards who were called to give evidence had little present recollection of the events at issue here. Using incomplete contemporaneous notes, they too attempted to reconstruct what must have happened.

[231] I accept Fong's evidence that while the notes on respiration rates recorded at the Detention Centre between 3:30 and 10:40 PM on February 13 indicated that Barber's respiration had improved, they did not suggest that Barber's breathing while there was normal. His breathing was noted to be "laboured".

[232] I accept Fong's evidence that Barber's temperature during that time frame continued to be affected by the Tylenol and Ibuprophen that Barber had received earlier while at the hospital. I accept Fong's evidence that normal temperature readings cannot be considered to be reassuring until they have lasted for more than 24 hours. I accept that Tylenol and Ibuprophen may reduce a fever without curing the underlying cause of the fever.

[233] I do not find that the Detention records reflect that Barber had a normal mental status between 3:30 PM and 10:40 PM on February 13, 2006. They contain no direct mention of mental status testing or results. They are equally consistent with lack of meaningful observation, interaction or discussion.

[234] In short, I did not find the evidence of the Detention Centre nurses and guards to be of much assistance in determining Barber's mental status and overall condition on February 13, 2006.

Evidence of the Triage Nurses At the Hospital

[235] The note of the triage nurse around midnight on February 13-14 has caused me much anxious consideration. If I had held that her notes were accurate, they could have provided a basis for this Court to infer that Barber's mental status around midnight on February 13 [and earlier] was indeed normal as Joshi [and Boushy] assumed it must have been.

[236] I would have liked to have heard the evidence of the triage nurse about her recollection of Barber's condition around midnight on February 13, the circumstances under which her note was written, including how she measured and assessed his respiration rate, how she evaluated his mental status and why she chose to put Barber in a minor care area of the ER without telemetry,

despite knowing that he had been recalled to the Hospital, by the Hospital, because of a Gram positive cocci blood stain. I would have liked to have heard her evidence on whether she had the Hospital chart from February 13, if not, why not, and what steps she took to obtain it. However, despite Dr. Fong's direct challenge of the accuracy of her observations recorded on the chart, neither party called the triage nurse to give evidence.

[237] I would ordinarily assume that a recording on a note in a Hospital chart would be accurate.

[238] However, here Fong squarely challenged its accuracy, opining that the triage nurse erred in making the note that she did.

[239] Here there was other evidence pointing away from its accuracy, including the evidence of Juurlink that by 10 Am on February 13 [by midnight on the 13th almost 14 hours earlier]that Barber's meninges had already been seeded with streptococcus bacteria, the evidence of Fong that by and after 10 AM on February 13 Barber had been showing signs of brain dysfunction, of Powis called by counsel for the defendants to the effect that after 10 AM on February 13 Barber already had meningitis, There was the note of confusion made by Joshi at 10 AM. Joshi's evidence that he was confused at 10:00 AM, the evidence of Joshi that confusion caused by meningitis would not be transient. Joshi made no note after 10 AM of a normal mental status. Shergold made no note of normal mental status at 3:15 AM or thereafter. Boushy gave evidence p. 651 that "if we think a patient has altered mental status usually bacterial meningitis whatever you do to that patient, that altered mental status does not change.

[240] Given the conflicting evidence and without the benefit of hearing from the triage nurse, I have done the best that I can, having regard to all of the evidence before me.

The Evidence of the Plaintiffs

[241] The evidence of the Plaintiffs was not and could not be of assistance to this Court on the liability issues.

[242] Unlike many family members who are parties to litigation such as this, these plaintiffs were not direct observers of the examinations, treatment and care given to their loved ones. They were not direct participants in discussions about possible diagnoses and recommended treatments.

[243] They were not allowed to consult with Barber's treatment providers to discuss Barber's ongoing care or condition. They were not allowed to discuss Barber's condition with Barber.

[244] Annette was not allowed to visit Barber at the Hospital until after he was already deeply comatose.

The Evidence of the Medical Experts

[245] As in any malpractice case, the opinions of the experts here with respect to whether or not the defendants breached the Standard of Care hinged on the assumptions they made about the underlying facts. Where I have found the facts to differ from their assumptions, I have given less weight to those opinions.

Expert Medical Evidence Called By Counsel for the Plaintiffs

Dr. Fong

[246] Before Fong gave evidence, counsel for the Defendants submitted that since he was not an emergency physician, and since he had a higher level of training and expertise [as an internist/ infectious disease specialist] than an ER physician, this Court should refuse to hear his evidence on the Standard of Care to be expected of emergency practitioners.

[247] I did not accept that submission in the particular circumstances of this case. Fong's qualifications to give evidence on the Standard of Care in 2006 included his experience teaching medical students on the Standard of Care expected of all medical students in 2006.

[248] Fong taught medical students about the minimum standard applicable to all MDs in 2006, including emergency room physicians. He did not give evidence here on what he taught internal medicine residents or infectious disease residents on the Standard of Care expected of internal medicine or infectious disease residents in 2006.

[249] The minimum standard expected of emergency room physicians in 2006 cannot be lower than the minimum standard expected of all physicians. While I accept the submission that the standard of emergency room doctors could conceivably be higher than the minimum standard expected of all MDs, I do not accept that it could ever be lower.

[250] I have borne in mind that Joshi and Shergold cannot be held to the standard of a specialist in internal medicine. I have considered Fong's evidence on the Standard of Care applicable to all medical doctors.

[251] Counsel for the Defendants also challenged the admissibility of Fong's evidence on the basis of his alleged lack of objectivity. They submitted that he originally based his conclusions upon his review of the contemporaneous records of the Detention Centre, the ambulance attendants and the Hospital and that he gave his opinion without having first reviewed Joshi's and Shergold's discovery transcripts. In formulating his opinion, he should have considered Fong and Shergold's evidence as to what happened, whether or not it had been reflected on the hospital chart.

[252] I accept that in reaching his final conclusions and in giving his evidence at trial, Fong was required to consider all of the circumstances of the case, including facts that had not been charted. However, it was not his role to decide the facts. He was entitled to give evidence based

on the assumption that the hospital chart reflected what actually happened, as long as it was clear that that is what he was assuming.

[253] I have made factual findings based on all of the evidence.

[254] To the extent that I have found that any of Fong's assumptions were factually inaccurate, I have given less or no weight to Fong's opinions based on those assumptions.

[255] Counsel for the Defendants also submitted that Fong made factual errors that should adversely affect the weight that this Court should give to Fong's opinion. For instance, they submitted that Fong failed to appreciate that the paramedics in the ambulance en route to the Hospital had recorded Glasgow Coma Scale assessments [of 15/15].That is correct. However, since I have also noted that the paramedics had concurrently recorded that Barber had been unwilling or unable to answer questions, and since they had also included a caveat that a thorough assessment had not been possible, I have not discounted Fong's opinion on that basis. Nor have I accepted the submission of counsel for the Defendants that the EMS comment that a thorough assessment was not possible / was inapplicable to their second GCS assessment.

[256] Counsel for the defendants submitted that Fong erred in assuming that Barber had a decreased level of consciousness at 10 AM on February 13. I disagree, for reasons detailed below.

[257] Counsel for the defendants submitted that Fong erred in assuming that Joshi did not do a full neurological exam at 10 AM on February 13. While I agree that Joshi did do a Glasgow Coma test, I agree with Fong that Joshi did not do the full and complete neurological testing required in all the circumstance here.

General Conclusions on Fong's Liability Evidence

[258] In my view, Fong was a knowledgeable witness.

[259] I have accepted the accuracy of most of Fong's assumptions as they generally accord with my findings of fact as set out later in these Reasons.

[260] I have accepted much of his evidence with respect to the Standard of Care applicable in 2006 to all MDs, including Doctors Joshi and Shergold.

[261] In short, I have found Fong's evidence to be helpful in resolving the issues related to the Standard of Care of Drs. Joshi and Shergold and as noted later, on causation issues as well.

Dr. Brankston

[262] The assumptions underlying Brankston's opinion were primarily based upon his review of the contents of the contemporaneous records.

[263] Again, counsel for the Defendants submitted that this Court should give Brankston's evidence little weight because he was not an objective witness, because he provided his opinion without first having reviewed Joshi's and Shergold's discovery transcripts.

[264] I make the same comment with respect to their criticisms of Brankston as I have already made with respect to their similar criticisms of Fong.

[265] I have rejected the Defendants' submission that I should give little or no weight to Brankston's evidence because he has provided more opinions on Standard of Care in medical malpractice cases to counsel for the Plaintiffs than to counsel for the Defendant doctors. I found Brankston to be an objective witness.

[266] Counsel for the Defendants submitted that Brankston ignored relevant evidence. For instance, they submitted that he did not refer to Barber's condition after he was returned to the Detention Centre. I reject that submission. Brankston's evidence was on the Standard of Care issue. In determining Joshi's Standard of Care, the information relevant to what Joshi did was what Joshi knew or should have known at the time he was diagnosing and treating Barber i.e. at the time Barber was at the Hospital before 2:40 PM on February 13. While the Detention Centre records could be relevant in determining Joshi's credibility, it was for this court, not for Brankston to consider and determine the credibility issues.

Experts Called to Give Evidence By Counsel for the Defendants on the Standard of Care Issue.

Dr. Boushy

[267] Counsel for the Plaintiffs submitted that Boushy's evidence should be given little or no weight because he was not an objective witness. He assumed that all of the discovery evidence of Joshi and Shergold was correct and he placed more reliance on it than he placed on the contents of the Hospital chart. For instance, Boushy assumed that Barber's skin colour at 10:00 AM, was normal, that his respiratory rates throughout his stay in the ER department between 9:17 AM and 2:40 PM on February 13 were normal. On the important issue of Barber's level of awareness, Boushy assumed that by 12:30 PM, Barber's mental status was normal and that he was no longer confused.

[268] In considering his objectivity, counsel for the plaintiffs asked this Court to have regard to Boushy's admission that he had followed instructions given by Defendants' counsel, when formulating his opinion, to assume that Barber's respiration at the time Joshi assessed him at 10:00 AM was normal, about 20 breaths per minute.

[269] Counsel for the plaintiffs asked this Court to also bear in mind that, at the same time, at trial, counsel for the Defendants conceded that the nurse's recordings of Barber's respiration rates of 29-35 breaths per minute at 9:55 AM, and 40 breaths per minute at 10:00 AM and 42 breaths per minute at 11:25 PM were accurate.

[270] On the issue of Boushy's objectivity I have considered not only those submissions, but also that Boushy initially attempted to defend Joshi's decision to discharge Barber from the hospital based on a "dramatic" improvement in Barber's condition with treatment. I have found there was little basis on the evidence to conclude at 12:30 PM that treatment had caused much, let alone dramatic improvement in Barber's underlying condition. As his cross-examination proceeded, I thought that Boushy seemed to be more balanced. Later in his evidence, Boushy distanced himself from his comment about "dramatic improvement" by 12:30, because Joshi had written that with treatment, Barber's breathing had "slightly improved".

[271] I have not accepted as accurate many of the assumptions that formed the foundation for Boushy's liability opinions. Because the foundation of his opinions was shaky, I have given little weight to those opinions.

Drs. Powis and Juurlink

[272] The other two experts called to give evidence by counsel for the Defendants, Powis and Juurlink, were called as experts on the causation issue, not on the Standard of Care issue. I shall deal with their evidence in the portion of these Reasons pertaining to causation.

LAW RELEVANT TO THE STANDARD OF CARE

[273] The onus is on the plaintiff to prove that Drs. Joshi and/or Shergold have breached the Standard of Care of reasonable and prudent emergency room physicians in 2006 having regard to all of the circumstances of the case. *Crits v. Sylvester* (1956) 1 DLR (2d) 502; *te Neuzen v. Korn* (1995), 127 DLR (4th) 577; *Gent v. Wilson* [1956] OR 257.

[274] The trier of fact must determine the applicable Standard of Care having regard to all of the expert evidence.

[275] G. Roccamo J. wrote in *Williams v. Bowler* [2005] OJ No. 3323 quoting *Dean v. York County Hospital* [1979] OJ No. 348 at para. 42:

> The real difficulty lies in determining whether injurious behaviour by a physician was negligence or merely an error in judgment and it is the facts in each case which will determine the answer to this crucial question.

[276] In *Crawford (litigation Guardian of)* [2003] OJ 89 Power J. wrote at para. 248:

> Where there are conflicting expert opinions, the trier of fact must weigh the conflicting testimony and ultimately assess the weight to be given to the evidence. There is no necessitated dismissal of a medical negligence claim simply because honest and competent experts disagree over a doctors diagnosis and treatment, while medical professionals should not be liable for mere errors of judgment.

[277] In *Crawford*, Power J. continued at para. 234 quoting Picard and Robertson in *Legal Liability of Doctors and Hospitals* 3rd ed. (Toronto: Carswell 1996) at p. 281:

> The mere fact that a doctor's error involves the exercise of judgment does not necessarily shield the doctor from liability. If the error is one which a reasonable doctor would not have made in similar circumstances, liability will be imposed. An error in judgment is not necessarily negligence, but it may be, depending upon the circumstances.

[278] As Power J. *wrote* in *Crawford v. Penney* [2003] OJ No. 89 at para. 229:

> Where clinical judgment is exercised, it must be based on information that is as complete as is reasonably available and possible in the circumstances, including tests or consultations that should have been carried out.

FACTUAL ISSUES TO BE DECIDED RELEVANT TO THE STANDARD OF CARE

Re Dr. Joshi

[279] In determining whether Dr. Joshi met the Standard of Care, I must make factual findings regarding Barber's presentation and condition between 10 AM on February 13, 2006, when Joshi first saw Barber, and 2:40 PM on February 13, 2006 when Joshi discharged Barber from the ER at the Hospital.

[280] How did Barber present between 10:00 AM and 2:40 PM? Did he still have the ashen skin colour that had been recorded earlier at triage, or did he have a normal skin colour? Did he look very ill? Did he have a decreased level of consciousness? What was his respiration rate?

[281] Based on his history of reduced level of consciousness, vagueness, fever, pneumonia, the crossing out of the note oriented times three, and/or the respiration rates observed by the nurses while he was in the hospital that day , should Joshi have suspected meningitis, included it in his differential diagnosis,?

[282] At 10 AM did Joshi do a detailed neurological examination? Did he properly test Barber for neck stiffness and other signs of meningitis?

[283] Should Joshi done a lumbar puncture at 10:00 AM or thereafter to rule out meningitis?

[284] Should he have admitted Barber to the Hospital or referred him to a specialist for admission?

[285] In short, did Barber have signs and symptoms of meningitis that should have caused Joshi to diagnose and properly treat meningitis or to refer him to a specialist?

Dr. Shergold

[286] Should Shergold have included meningitis in his differential diagnosis at 3:15 and thereafter?

[287] Did Shergold adequately consider, examine, test for meningitis?

Findings of Fact

Dr. Joshi

Barber's Known History - What Joshi Knew at 10 AM

[288] Joshi knew that Barber's skin colour had been noted at triage at 9:17 AM to be "ashen" and that he had been eobtainarlier been noted to be diaphoretic/ sweating profusely.

[289] I find that before Joshi's February 13 assessment at 10:00 AM, Joshi was aware of Barber's history of fever and the history of a decreased level of consciousness [he said for at least 1 day]. He agreed that he had the EMS, triage and nurses notes when he assessed Barber at 10:00 AM. [He said he was not given Mueller's note until later.] Joshi knew that in the ambulance, Barber had been unwilling or unable to answer questions so that a thorough assessment had not been possible.

[290] En route to the Hospital, his temperature had been normal yet the paramedics had written that Barber had been unable or unwilling to answer questions and that a full mental status assessment had not been possible. Joshi had access to the records of those paramedics. I accept the evidence of Brankston and Fong that when he arrived at the Hospital Barber looked very unwell. At triage at 9:17 AM, I find that Barber appeared to the triage nurse to be very ill. He/she noted Barber's skin colour to be ashen. His blood pressure was elevated 187/113. While a normal respiration rate is 12-20 breaths per minute, Barber's respiration rate was noted at 9:17 to be elevated at 22 breaths per minute. He was noted to be diaphoretic [very sweaty] and non-communicative.

[291] I find, based on the evidence of Brankston and Fong and the content of the Hospital chart that when Barber arrived at the Hospital early in the morning of February 13, he looked sicker than most patients who have community acquired pneumonia.

[292] He knew that at 9:55 AM Barber had been noted to be very sweaty, to have a respiration rate of 29-35 breaths per minute, to be vague, unable to focus on conversation, not to be oriented as to person, place and time x 3 (crossed out).

Assessment 10 AM

Re Skin Colour

[293] Joshi had no present recollection of Barber's skin colour at 10:00 AM. He said that Barber must not have had an ashen skin colour because if he had, he would have documented it.

[294] I do not accept that because Joshi did not note an ashen skin colour, Barber's colour at 10:00 AM must have been normal. Joshi claimed to have noted all positive and negative findings salient to Barber's clinical course. Since Barber's skin colour had been noted to be ashen at 9:17 AM, I find that had Joshi noted an improvement in his skin colour from ashen to a normal at 10:00 AM, he would have considered it salient to Barber's clinical course and noted it on the Hospital chart.

Sweatiness

[295] I find Barber was very sweaty at 10:00 AM.

Respiration Rates

[296] I find that Barber's respiration rate had been abnormally elevated before 10:00 AM. At 9:17 AM it was 22. At 9:55 AM, a nurse noted it was up to 29-35 [He also noted shortness of breath]. At 10:00 AM a nurse had noted and I find it was 40 [2x the high end of normal].

[297] Joshi recorded Barber's respiration rate at 10:00 AM at 20 breaths per minute, Even if I were to accept that Barber's respiration rate was 20 at that time, Joshi admitted he was aware that the Hospital chart already reflected that Barber had been recorded to be having much higher respiration rates.

[298] Boushy said that persistent elevated respiration rates could be a sign of meningitis and conceded that if Joshi had been aware of the higher rates of 40 and 42, and if he had believed them to be accurate, Joshi should have considered them.

[299] I find, based in part on of the evidence of Boushy, a witness called to give evidence by counsel for the Defendants, that Joshi should not have ignored Barber's recorded and very elevated respiration rates. I find that Joshi should have assumed they were accurate and should have considered them in making his differential diagnosis and deciding what testing and treatment was needed.

[300] In formulating his opinion on the Standard of Care applicable to Joshi, I find that Boushy should not have assumed that Barber's respiration rates on the morning and early afternoon of February 13 were normal. As the Hospital records clearly disclosed, Barber's respiration rates were far from consistently normal. Joshi knew that.

Blood Pressure at 10 AM

[301] By 10:00 AM, there had been many recordings of Barber's elevated blood pressure readings. Joshi said at 10:00 AM Barber's blood pressure was elevated 178/90.

[302] Joshi should not simply have assumed that Barber's elevated blood pressure at that time was because Barber may not have been receiving his blood pressure medication. Joshi did not call the Detention Centre to check.

[303] Powis gave evidence that elevated blood pressure can be a physiological manifestation of elevated intracranial pressure. When infection is present in the brain and intracranial pressure increases, the rest of the body may respond with an elevated blood pressure to compensate, by driving blood into the brain.

[304] I find Joshi needed to consider Barber's elevated blood pressure. Without seeking further information he could not simply assume Barber had not been taking his blood pressure medication.

Mental Status - Presence of Confusion at 10 AM

[305] I have accepted the evidence of Fong set out earlier in these Reasons that fever and reduced level of consciousness together may be signs of meningitis.

[306] I have not accepted Joshi's statement [or Boushy's assumption] that Barber did not have a decreased level of consciousness at 10:00 AM on February 13, 2006.

Possible Causes of Barber's Confusion at 10 AM

[307] Joshi assumed that Barber's confusion at 10:00 AM was caused by fever, dehydration or pneumonia.

(a) **Fever**

[308] At 10:00 AM, Barber had little if any fever (37.9°C) [his temperature was borderline normal].

[309] I find that Joshi would have known from the ambulance charts that earlier in the morning of February 13, while in the ambulance, Barber had received ASA (albeit for chest pains) and that by 10:00 AM, that ASA could have reduced what had been reported as a history of [underlying] fever over several days. [He could not have assumed that the ASA would have cured the underlying cause of the longstanding fever.]

[310] If he was considering that treatment of the fever might clear the confusion, he should have realized that the fever had already been treated, reduced to normal or almost normal and yet at 10 AM Barber was nevertheless still confused.

[311] I find at 10 AM fever was not a likely explanation for Barber's confusion.

[312] Boushy adopted Joshi's assumption that at 10 AM Barber's confusion could have been caused by fever even though at 10 AM Barber had little or no fever.

[313] Boushy conceded in cross examination that where there is confusion without fever, an emergency room doctor must look for alternative causes of the confusion.

(b) Dehydration

[314] Fong opined and Joshi conceded in evidence that on the morning of February 13, Barber was not clinically dehydrated. Given his concession that Barber was not clinically dehydrated, I find that Joshi should not have assumed that Barber's confusion at 10 AM was perhaps being caused by dehydration.

[315] I find that in the circumstances here, dehydration was not a plausible explanation for Barber's confusion at 10 AM either.

(c) Pneumonia

[316] Joshi suspected Barber had pneumonia. He said pneumonia can cause confusion.

[317] Fong agreed that pneumonia can affect oxygen saturation and lack of oxygen can cause confusion.

[318] However, at 10 AM Joshi did not take a test for blood gases as I find he would have done had he had been concerned that the pneumonia was causing Barber's confusion. I find he assumed, or already knew, from the information he already had, that Barber's oxygen saturation at 10 AM was normal.

Need to Look for Other Causes of the Confusion

[319] Since at 10:00 AM, none of fever, dehydration and pneumonia were plausible causes of Barber's confusion, I find it made no sense for Joshi to first try to treat a borderline normal fever and a clinically nonexistent dehydration and then to wait to see if Barber's confusion would clear before considering other possible causes of the confusion.

[320] Where Barber was known to have had a history of fever and a decreased level of consciousness, and where Joshi should have understood that at 10 AM untreated fever and dehydration were not likely explanations for Barber's confusion, I find that at 10 AM Joshi should have carefully explored other possible causes for the confusion.

Need to Conduct a Thorough Examination Including a Neurological Examination

[321] I accept Fong's evidence that Joshi was required to consider not only the most common causes of the confusion, but also the possibility of meningitis, given what else he knew, and given that the signs and symptoms of meningitis were there to be seen. He had to be specifically on the lookout for possible signs of meningitis.

[322] Although Barber had complained of chest pains in the ambulance, given his history and confusion, Joshi was required to focus on more than Barber's cardiac status.

[323] He had to consider the underlying cause of Barber's continuing fever [when untreated with Tylenol or ASA] and of his ongoing decreased level of consciousness.

[324] Boushy mentioned at page 648 that meningitis presents with many of the following, a history of altered mental status that is sustained, that does not improve with what we do in the emergency department. He said altered level of consciousness could be p 650 what is described as slightly or somewhat confused, someone that is not answering questions properly, that is quite vague when answering questions and that does not follow instructions during examination, headache, visual changes. He said bacterial meningitis patients are very sick. On the physical exam they look very unwell. They usually have low blood pressure and a high heart rate, high respiratory rate, usually but not always neck stiffness.

[325] In the preceding paragraph I have underlined those signs of meningitis identified by Boushy that I have found were present at 10 AM in Barber's case.

[326] It is trite to say that the more serious the consequences of not considering and making a possible diagnosis and of not treating the condition in a timely way, the greater the need to do so.

[327] It is clear on the evidence that Joshi understood that bacterial meningitis is not a head cold. It could be deadly, and fast.

[328] I find in all the circumstances, at 10 AM on February 13, 2006, Joshi did not adequately consider other possible causes of the confusion and the presence of a history of underlying fever and decreased level of consciousness, including bacterial meningitis.

Examination at 10 AM

[329] I find that at 10:00 Joshi focused on Barber's cardiac status, not on his existing confusion, history of decreased level of consciousness and history of underlying fever.

[330] I have accepted Fong's evidence and find Joshi should have included meningitis in his differential diagnosis.

[331] Joshi conducted a "focussed" exam and did not adequately examine Barber for neurological signs and symptoms

[332] I find Joshi was not on the lookout for meningitis as he should have been. I find that during his examination he did not specifically check, thoroughly explore, or test for signs or symptoms of meningitis.

[333] I find that Joshi did not specifically test for neck stiffness. Joshi made no note that he had specifically done so. He concluded Barber had no neck stiffness on the basis that he was moving freely. However, Joshi said he did not specifically ask Barber to flex his neck forward.

[334] Although he did do a Glasgow Coma Scale assessment, Joshi needed to do a full detailed neurological examination. Fong at p. 497 referred to a Glasgow Coma Scale assessment as a "quick neurological assessment." I do not accept that Joshi's Glasgow Coma assessment during the 10:00 AM examination was the detailed and full neurological assessment that Fong said was required.

Decision to Treat and Wait

[335] I have rejected Boushy's opinion that Joshi's decision at 10:00 AM to treat for fever and dehydration and to reassess to see if Barber's confusion had cleared as a result of treatment before considering other possible causes of the confusion such as meningitis was reasonable, based as it was on what I have found to be his incorrect assumptions, including with respect to his mental status, skin colour and respiration rate.

[336] At 10:00 AM Barber had little fever, no clinical evidence of dehydration and yet was confused.

[337] Where fever, dehydration and pneumonia were not plausible explanations for the confusion, Joshi should not have waited to explore other causes for the confusion.

[338] I find there was no good reason to treat and wait. Given the known dangers posed by possible meningitis, there was good reason to act quickly.

[339] I find in all the circumstances Joshi should have immediately done what he needed to do to rule out the possibility of meningitis, especially because he understood the very serious possible consequence of not doing so.

Testing-The Need to Do a Lumbar Puncture at 10 AM

[340] Given Barber's confusion and his history of fever and decreased level of consciousness for two days, of which Joshi was aware, and given that there was no contraindication for a lumbar puncture at 10:00 AM on February 13, I accept Fong's evidence that a lumbar puncture should have been done at that time.

[341] I have accepted Fong's evidence that even if there had been no neck stiffness, that would not in itself have been enough to rule out meningitis. Given Barber's confusion and

history of underlying fever, Joshi needed to do a spinal tap/lumbar puncture to rule out meningitis.

[342] I reject Boushy's opinion that Joshi did not need to do a lumbar puncture at 10:00 AM as Boushy's opinion was premised on a normal skin colour, a normal respiration rate and confusion possibly caused by fever or dehydration.

[343] I have not accepted the submission of Counsel for the Defendants that Fong's statement at p. 431 that the decision on whether or not to do a spinal tap would have been dependent on the results of the neurological examination including the assessment of Barber's level of consciousness p. 432, the physical examination and other things. They submitted that Fong's evidence should be interpreted as if Fong had withheld his opinion on the necessity of a lumbar puncture and as if he had made it contingent on certain results having being obtained on the neurological exam.

[344] Counsel for the Defendants submitted that Fong did not say, that based on Barber's actual condition at 10:00 AM, or Joshi's note of confusion, or a Glasgow Coma Scale assessment of 14/15 that a lumbar puncture would have been required. They submitted that there was no evidence to support a finding that a lumbar puncture needed to be done.

[345] I do not accept that submission. Fong did say at pp. 432-443 that he teaches all of his medical students that it is very important to rule out meningitis. If there is a decreased level of consciousness and a prolonged fever [as here] and if there is no contraindication, a spinal tap should be done.

[346] I do find that Fong was of the view that Barber did have a decreased level of consciousness and had had a prolonged fever on February 13 at 10:00 AM. He did say that at that time, Barber was already showing signs of brain dysfunction.

Summary Of Application of the Law to Findings of Fact Re Joshi`s Medical Care at 10 AM

[347] I do not accept Joshi's evidence that at 10 AM, Barber showed no signs or symptoms of meningitis.

[348] In short, at 10:00 AM, Barber showed signs and symptoms of meningitis including continuing confusion, decreased level of consciousness, a history of fever and decreased level of consciousness, a very unwell looking appearance and elevated respiration rates.

[349] Those signs and symptoms should have been recognized and considered.

[350] Joshi failed to observe, recognize and consider the signs and symptoms of meningitis that were there to be seen. I accept Fong's evidence that on the information available, meningitis should have been included in Joshi's differential diagnosis.

[351] I find that Joshi fell below the Standard of Care in failing to adequately consider the possibility that Barber had meningitis at 10 AM.

[352] I accept Fong's evidence that Joshi should and could have done a lumbar puncture at 10 AM.

[353] Joshi conceded that if he had suspected meningitis he would have included it in his differential diagnosis and that he would have done a lumbar puncture.

[354] I find Joshi fell below the Standard of Care in failing to do a lumbar puncture at 10 AM.

[355] I accept the evidence of Fong and Powis that if a lumbar puncture had been done shortly after 10:00 AM, bacteria in the spinal fluid would have been detected, meningitis would have been diagnosed and the standard treatment for meningitis would have been initiated immediately p. 475.

Standard of Care Treatment

[356] I accept Fong's evidence that conventional treatment for meningitis would have included 2 gram Ceftriaxone, 1 gram Vancomycin and, because he had not yet received any other antibiotics, Decadron.

[357] I accept that in the medical literature filed with this Court, Exhibit 29, Decadron, a potent anti-inflammatory steroid p. 468, has been reported to reduce the mortality and neurological sequelae in patients with pneumococcal meningitis, if administered before or at the same time as the antibiotics.

[358] Powis conceded that Decadron has a positive effect in treating bacterial meningitis if it is administered before or at the same time as the first antibiotics.

[359] At 10:00 AM, Joshi could have administered Decadron to Barber before he administered the recommended Ceftriaxone and Vancomycin.

[360] I find, based on Fong's evidence mentioned above that all three should and would have been administered to Barber shortly after 10:00 AM had a spinal tap been done and had meningitis been diagnosed at that time.

Findings Re: Events Between 10 AM and Joshi's Second Assessment at 12:30 PM

[361] The first results of the blood tests ordered after the 10:00 AM assessment became available between 10:24 AM and 11:14 AM on February 13. They showed a white blood cell count of 14,900, consistent with an infective process pp. 930, 932.

[362] At 11:25 AM, a nurse recorded an elevated blood pressure 176/98, an elevated respiratory rate of 42 and shallow breathing, a temperature of 36.2°C.

Findings of Fact Re Joshi's 12:30 PM Assessment

[363] Joshi conceded that he did not do a neurological examination at 12:30 PM on February 13, 2006.

[364] I find Joshi's primary focus at 12:30 AM was again on Barber's cardiac status, not on his confusion/reduced level of consciousness or his history of underlying fever and decreased consciousness.

Charting

[365] Since Joshi had noted Barber to be confused at 10:00 AM, had Barber's mental condition improved, I would have expected Joshi to consider that improvement salient enough to Barber's condition and clinical course to have recorded it on the chart.

[366] By the time of the 12:30 PM reassessment, Joshi had the nursing note on the Hospital chart recording Barber's respiration rate at 11:25 AM of 42 breaths per minute While he said that at 12:30 PM he observed that Barber's respiration rate was normal, he also acknowledged that he made no record of Barber's respiration rate, other than to note "slight improvement." It is unclear to what Joshi was referring. If he was referring to breathing slightly improved from his 11:25 reading of 42 breaths per minute, then slightly improved could have still been grossly abnormal. If he was referring to his own note of 20 breaths per minute at 10 AM, Joshi should not have ignored the reading of 42 taken at 11:25AM.

Temperature

[367] While by 12:30 PM, Barber's temperature had been reduced from 37.6°C, at triage to 36.1°C, it was obvious on the face of the records that Joshi had, that Barber had received ASA in the ambulance and then extra strength Tylenol and a double dose of Ibuprofen at 10:30 AM.

[368] I find Joshi should not have taken comfort from Barber's lowered temperature given his history of prolonged underlying fever and obvious underlying infection.

[369] Joshi needed to be concerned about the underlying cause of the fever.

[370] I accept Fong's evidence p533 that "we do not consider a patient as being afebrile or significantly responds to treatment unless the temperature stays normal more than 24 hours"

Mental Status

[371] At 10 AM Barber had been confused. If there had been a change in his mental status I would have expected Joshi to note that change on the chart.

[372] I have found that at 12:30 PM Joshi was focused on Barber's cardiac status, not on his mental status. Joshi conceded he did not conduct a full neurological examination at 12:30 PM.

[373] Joshi said since he did not make a note that Barber's mental status must have been normal. In my view, Joshi's failure to note Barber's mental status at 12:30 PM was just as consistent with Joshi having failed to adequately address Barber's mental status as with Joshi having adequately tested and satisfied himself that Barber's mental status was normal.

[374] Joshi had no present recollection that Barber had a normal mental status at 12:30 PM. Joshi said he thought he must have spoken to Barber and that Barber must have been conversant.

[375] I find that at his 12:30 PM assessment, Joshi did not test for Barber's mental status but simply assumed it was normal. In all the circumstances, he should have done thorough neurological testing and noted the results of his testing on the chart.

[376] Again, Fong opined that Barber's confusion on February 13 resulted from brain dysfunction that was already being caused by meningitis. Joshi gave evidence that if Barber's confusion at 10 AM was being caused by a dysfunction of the brain resulting from bacterial meningitis [as Fong opined it was by the morning of February 13], he did not think that Barber's confusion would have been transient. In other words, if Barber had meningitis Joshi did not think Barber's confusion would have cleared by 12:30 PM after treatment with Ibuprofen, Tylenol and saline. Boushy said p. 651 if we think a patient has altered mental status, usually bacterial meningitis patient, whatever you do that altered mental status does not change.

[377] If Joshi and Boushy were correct, then it would follow that either (1) Fong was incorrect that by 10:00 AM and 12:30 PM on February 13, meningitis was already causing Barber's brain dysfunction/confusion; or (2) Joshi was incorrect in concluding at 12:30 that treatment by Tylenol and ibuprofen and saline had had the effect of curing Barber's confusion and of restoring his mental status to normal. [No witness suggested that the Avelox 400 mg administered to Barber on the morning of February 13 would have had the effect of clearing Barber's confusion by 12:30 PM or 2:00 PM.]

[378] While I recognize that Fong said except where a patient is in a deep coma, very critical condition, there may be some fluctuation in mental status, I find if there had been improvement, Joshi would have noted it. In the face of Joshi's lack of present recollection, his failure to record that Barber had a normal mental status at 12:30 PM and his evidence that confusion caused by meningitis would not have been transient, I reject Joshi's evidence that Barber's mental status must have improved to normal by 12:30 PM.

Lumbar Puncture at 12:30 PM

[379] Joshi said he did not suspect meningitis at his 12:30 PM assessment and that he did not do a lumbar puncture to test for meningitis. He agreed that if there had been signs and symptoms of meningitis, he would have done a lumbar puncture.

[380] Again, I have found that at 12:30 PM, the signs and symptoms of meningitis were there for him to see. Treatment with Tylenol and saline could not plausibly have been thought to have cured the underlying condition.

[381] I have found Barber's underlying condition had not improved at 12:30 PM. Boushy agreed that if Barber's condition had not improved at 12:30 PM, Joshi should have done a lumbar puncture.

[382] I have found that a lumbar puncture should have been done at 10:00 AM. Joshi should not have waited.

[383] However, if not done at 10 AM, Joshi should certainly have done a lumbar puncture at 12:30.

[384] I find at 12:30 Joshi did not meet the Standard of Care. He failed to suspect meningitis, include it in his differential diagnosis, examine and test, do a lumbar puncture, diagnose meningitis, treat meningitis appropriately.

[385] Boushy's evidence that Joshi's treatment and decision to discharge Barber was reasonable was based on his incorrect assumption that by 12:30 PM Barber's condition had improved with treatment, and that by 12:30, Barber's mental status and respiration rate were normal. Since I do not accept Boushy's underlying assumptions, I do not accept Boushy's opinion.

Findings Re 2:30 to 2:40 PM February 13, 2006

[386] Joshi admitted that but for the retaking of the levels of troponin, a cardiac marker, he would have discharged Barber at 12:30 PM.

[387] After the 12:30 PM assessment, I find that Joshi continued to focus unduly on Barber's cardiac condition, not on his mental status, his history of fever, the cause of his underlying fever, confusion, and fluctuating respiration rate.

Third Assessment 2:00 PM

[388] At 2:00 PM Joshi saw Barber again. He said at that time he was using information he had gathered from all three examinations p. 989. He said that Barber's respiratory rate and his mental status must have been normal or else he would have noted them on the Hospital chart. p. 948.

[389] He said given Barber's positive response to treatment, he did not consider admitting Barber to the Hospital p. 948.

[390] I find that Joshi erred in concluding that Barber had responded positively to treatment. Meningitis, the cause of his underlying fever and confusion, was continuing.

[391] I find that in deciding whether to send Barber back to the detention centre Joshi did not score him on either the Pneumonia Severity Index or CURB. If he had done so, he would have recorded the results on the Hospital chart because he would have considered them to be "salient positive or negative findings relevant to Barber's course within the emergency department."

Discharge 2:40 PM

[392] After results of the second troponin level test were received and they were normal, Joshi discharged Barber at 2:40 PM.

[393] On the incorrect assumption that all of Joshi's discovery evidence was accurate, including his evidence that Barber's mental status and respiration rates at 2:00 PM were normal, Boushy opined that in discharging Barber, Joshi met the Standard of Care.

[394] Again, that portion of Boushy's opinion was not helpful to this Court because I have rejected the underlying assumptions upon which it was based, including that Barber's condition had improved, his confusion had cleared and his respiration rate had been consistently normal. I have placed little reliance on Boushy's evidence that Joshi met the Standard of Care in that regard.

Summary of Overall Findings with Respect to Dr. Joshi's Breach of the Standard of Care

[395] I have rejected Boushy's evidence that Joshi met the Standard of Care at 10 AM, at 12:30 PM, at 2:00 PM and at 2:40 PM.

[396] I have found Joshi should have suspected meningitis during his 10:00 AM assessment and thereafter on February 13, 2006.

[397] Joshi should have included meningitis in his differential diagnosis, given Barber's confusion, known history of fever and decreased level of consciousness, his pneumonia and his elevated respiration rates.

[398] Joshi breached the Standard of Care from the time of his first assessment in failing to adequately investigate, examine and test for meningitis.

[399] At 10:00 AM Joshi should have done a lumbar puncture. Had he done so, I find, based on the evidence of Fong, that it would have revealed the presence of meningitis. Standard treatment with 2 grams Ceftriaxone and 1 gram Vancomycin, and Decadron, a potent anti-inflammatory steroid, would have been commenced. Fong p 469 and Juurlink p 1520.

Findings of Fact Relevant to Shergold's Standard of Care.

[400] Again, I must make factual findings on Barber's presentation and level of consciousness between 3:15 AM, when Shergold first saw Barber, and 8:00 AM on February 14, 2006, when Shergold last saw him.

[401] Again, this Court must make findings in the absence of sufficiently detailed Hospital records recording Barber's vital signs, including his blood pressure, respiration rates and temperature, over much of the time Barber was in the ER.

[402] I must make findings in the absence of sufficiently detailed notes made by Shergold.

[403] I note that Shergold said he never received the Hospital chart from the previous day, February 13, 2006. I recognize that if he did not have that Hospital Chart that, together with the triage assessment made around midnight on February 13-14, 2006 [that Fong alleged was incorrect] and the consequent placement of Barber in the minor care area of the ER, not in a telemetry room, would have made Shergold's job more difficult. Had Shergold had a correct triage assessment as well as the Hospital records from the February 13 visit to the emergency department, he would have been better equipped to appreciate the severity of Barber's condition.

[404] Had Shergold had the Hospital chart from February 13, he would have been fully aware of Barber's confusion, his history of fever and reduced level of consciousness over several days, his fluctuating respiration rates, his elevated blood pressure and his rising white blood cell counts.

[405] Given the evidence that I have accepted, including that Barber had had an underlying fever and decreased level of consciousness over several days, that by 10 AM on February 13 Barber already had been demonstrating signs of brain dysfunction from meningitis and had been confused, Joshi's and Boushy's evidence that confusion caused by meningitis would not have been transient, and the other evidence mentioned earlier in these Reasons pointing away from the accuracy of the triage note, I have accepted Fong's opinion that the triage assessment around midnight on February 13 was inaccurate.

[406] It is inexplicable why the Hospital did not furnish the previous day's chart to Shergold.

[407] Expert evidence should not be required for me to reach the obvious conclusion that the Hospital should have provided its own emergency room physician with its own chart regarding Barber's attendance on February 13, especially since another of the Hospital's physicians had requested that Barber be returned to the Hospital because of blood tests results that had been ordered and received at the Hospital. I find that in all the circumstances here, the Hospital should have provided Barber's chart from February 13. It should have been immediately accessible to both the triage nurse and to Shergold on Barber's return.

[408] I accept Fong's evidence that Shergold needed to insist on receiving and reviewing the previous day's records, including the test results obtained on February 13.

[409] I find that Shergold should have insisted that the Hospital provide him with its chart from the previous day. *Crawford v Penney* 14 CCLT(3d)60 at para 229. The proper exercise of judgment must be made using reasonably available information, including information which is as complete as is reasonably possible in the circumstances.

[410] If Shergold did not have the chart and he needed information about Barber, he should have made the necessary enquiries. Shergold conceded he knew about the recall for a gram positive cocci blood stain. I accept Fong's evidence that with a gram positive cocci blood stain there was a 90% chance that pneumoniae streptococcus bacteria would be growing in Barber's blood. [Powis also said pp. 1388-1389 that where there is a gram-positive cocci bloodstain, the most common bacteria found is streptococcal pneumonia bacteria. If the patient had had pneumonia, that would increase the probability that the bacteria would be streptococcus pneumoniae, usually a serious pathogen. If Barber looked sick, Powis said he would assume that it would likely be streptococcus pneumoniae bacteria.] He should have attempted to obtain the February 13 chart and if that were not possible, and or if he needed further information, he should have taken steps to obtain it. He could have called the Detention Centre.

[411] Of course, this Court cannot be certain whether Shergold was correct that on February 14, he did not have the chart for February 13. Given his general lack of recollection, I am dubious that Shergold remembered that he did not have the Hospital chart from the previous day. However, I do note that there is a note on the chart Exhibit 1 p. 139 mistakenly suggesting that "Patient did not return" to the hospital. That mistake could be one possible explanation as to why the chart might not have been immediately made available to Shergold during the hours that Barber was at the ER on February 14.

[412] Shergold said that even without the chart he knew that Barber had been recalled to the Hospital by someone at the Hospital because of a gram positive cocci blood stain. He said he knew that Barber was suspected of having gram positive cocci in his blood. He said he knew that Barber had been provisionally diagnosed with pneumonia at the Hospital on February 13. He knew that a chest x ray had been done because he wrote find old chest x ray on the chart.

[413] If he did not receive the information about the pneumonia and the chest x ray from the chart, Shergold must have gotten it from some other written record, Barber or his guards. Although he could not specifically remember doing so, Shergold said that he thought he must have received it from speaking to Barber.

[414] I find it unlikely that at 3:15 AM a patient who for the previous two days had variously been noted to be vague, not oriented as to person, place and time, who had failed to answer questions, had been noted to be confused, who hours later would have a white blood cell count of 18,400, who Shergold had noted to look unwell and who less than two hours later would be unable to stand or void independently, who according to the evidence of Powis may very well already have had very elevated blood pressure, would have spontaneously volunteered and provided such detailed information to Shergold.

[415] I find that in all the circumstances at 3:15 AM, given what Shergold knew and should have known, including that Barber had been recalled to the Hospital because of a gram-positive cocci blood stain, his known history of pneumonia or suspected pneumonia, Shergold needed to carefully consider from where the bacteremia had originated.

[416] I accept Fong's evidence and I find that Shergold should have included bacterial meningitis in his differential diagnosis and tested appropriately to rule it out.

[417] I find he did not specifically focus on the possibility that Barber had meningitis, look for signs or symptoms or test for meningitis.

[418] I reject Shergold's evidence that there was no need to test for meningitis because Barber had no signs or symptoms of meningitis. I find that signs and symptoms of meningitis were there to be seen. I find given what he knew he had to actively look for them. He did not do so.

[419] I find Shergold was required to conduct careful neurological testing, including testing for an altered level of consciousness and that he needed to record his neurological findings in detail.

[420] There is no direct reference to any neurological assessment or findings or to any consideration of or conclusions about Barber's mental condition contained in the Hospital chart. I find that Shergold did not do a complete detailed neurological assessment.

[421] Shergold gave evidence that Barber must have been able to communicate properly, and must not have been confused, because he kept him in the minor area of the ER.

[422] I might have accepted Shergold's assumption had Shergold specifically noted that Barber had been communicating normally with him, or if he had noted that he had done a detailed neurological exam, looked for an altered mental status and that he had concluded after a careful examination that Barber was not confused.

[423] However, Shergold did not record any such investigations, observations or conclusions on the chart.

[424] I find that because he did not suspect meningitis, he did not consider doing a spinal tap.

[425] I accept Fong's evidence that Shergold could and should have done a spinal tap at 3:15 AM [if one had not been done earlier]. At that time, a lumbar puncture was not yet contraindicated.

[426] I accept Fong's evidence and I find, that Shergold breached the Standard of Care at 3:15 AM on February 14, 2006 in failing to adequately consider the implications of the gram positive cocci bloodstain, taken together with his knowledge that pneumonia had been diagnosed, that Barber likely had streptococcus pneumonia bacteria [a dangerous pathogen] in his blood, that such bacteria in the blood could cross the blood brain barrier and infect the meninges and spinal cord and cause brain swelling and death, and that bacterial meningitis can be a fulminant fast-acting killer.

[427] Had he done a lumbar puncture at 3:15 AM, again I find that meningitis would have been diagnosed and standard treatment for bacterial meningitis would have been commenced at that time.

3:15 - 5:30

[428] Even after Shergold received the white blood cell count of 18,400 early in the morning of February 14, he still did not recognize the seriousness of Barber's condition.

[429] Had he had the Hospital Chart from the day before, he would have known that Barber's white blood cell count, a marker of infection, had increased from 14,900 at 10:24 AM on February 13.

[430] Again, between 3:15 AM and 5:30 AM he did not ensure that Barber's ongoing vital signs were properly monitored and recorded on the Hospital chart.

[431] At 5:30 AM, when Barber's blood pressure was finally recorded, it was very elevated at 215/128.

[432] I accept Fong's evidence that Barber's relatively low heart rate and his high blood pressure at 5:30 AM were glaring evidence of high intracranial pressure at that time.

[433] Powis opined that between midnight and 5:30 AM Barber's blood pressure may have been increasing. He said he could not be certain because Barber's vital signs had not been recorded on the Hospital Chart during that timeframe.

[434] In summary, I find that given what he knew and should have known at and after 3:15 AM, Shergold breached the Standard of Care in failing to suspect meningitis, include it in his differential diagnosis, adequately examine Barber neurologically and physically, specifically looking for signs and symptoms of meningitis. He needed to investigate, examine, test for, diagnose and treat bacterial meningitis appropriately.

Liability Issue 2: Causation

Causation Law

[435] Causation cannot be assessed or proven in the abstract. It must be specifically linked to the act or omission said to have breached the standard. It is necessary for the Court to identify the act or omission to determine what if any connection it has to the harm at issue.

[436] In *Cotrelle v Gerrard*, 2003 CanLII 50091 (ON CA) at para 24, Sharpe JA wrote for the Ontario Court of Appeal:

> Causation is established when the plaintiff proves, on a balance of probabilities, that the defendant caused or contributed to the injury.

> The generally applicable test is the "but for" test. This test 'requires the plaintiff to show the injury would not have occurred but for the negligence of the defendant' (*Athey v. Leonati*, 1996 CanLII 183 (SCC), [1996] 3 S.C.R. 458, 140 D.L.R. (4th) 235. at para 14).

[437] All Counsel agreed that the legal test on causation to be applied to Doctors Joshi and Shergold is whether the plaintiffs have proved that but for the breach of the Standard of Care, more likely than not, Barber would not have died.

[438] They agreed that, on the facts here, it was not necessary for this Court to consider whether the material contribution test applied.

[439] The parties agreed that it was not necessary for the plaintiffs to prove that the defendants' negligence was the sole cause of the injury.

[440] In *Snell v Farrell* [1990] 2 SCR 311, the Supreme Court of Canada held that the legal or ultimate burden of proof remains with the Plaintiff. However, Sopinka J wrote at para 29 that causation need not be determined by scientific precision.

[441] In *Crawford v Penney*, [2003] O.J. No. 89 14 CCLT (3d) Power J, summarized the elements of determining causation in medical malpractice cases set out by Gonthier J. in *Laferriere v Lawson* [1991] 1 SCR 541 at paragraph 218 as follows:

(a) the Rules of Civil responsibility require proof of fault, causation and damages;

(b) both acts and omissions may amount to fault and both may be analyzed similarly with regard to causation;

(c) causation in law is not identical to scientific causation;

(d) causation in law must be established on the balance of probabilities, taking into account all the evidence: factual, statistical and that which the judge is entitled to presume;

(e) in some cases, where fault presents a clear danger, and where such a danger materializes, it may be reasonable to presume a causal link, unless there is a demonstration or indication to the contrary;

(f) statistical evidence may be helpful as indicative but not determinative. In particular, whereas statistical evidence does not indicate causation on a balance of probabilities, causation in law may nonetheless exist where evidence in the case supports such a finding;

(g) even where statistical and factual evidence did not support a finding of causation on the balance of probabilities, with respect to particular damage (e.g. death or sickness), such evidence they still justify a finding of causation with respect to lesser damage (e.g. slightly shorter life, greater pain);

(h) the evidence must be carefully analyzed to determine the exact nature of the fault or breach of duty and its consequences, as well as the particular character of the damage which has been suffered, as experienced by the victim;

(i) if, after consideration of these factors, the judge is not satisfied that fault has, on his or her assessment of the balance of probabilities, caused any real damage, then recovery should be denied.

[442] In *Ediger (Guardian ad litem of) v Johnston* 2013 SCC 18, [2013] 2 SCR 98, Rothstein and Moldaver JJ wrote for the Court that inherent in the phrase "but for" is the requirement that the defendant's negligence was necessary to bring about the injury. In other words, that the injury would not have occurred without the defendant's negligence. Causation is a factual inquiry. The trial judge's causation finding is reviewed for palpable and overriding error.

[443] At paragraph 36 they elaborated on the proof required by the plaintiffs in medical malpractice cases:

> *Snell v Farrell* stands for the proposition that the plaintiff [has the burden]in medical malpractice cases... of proving causation on a balance of the probabilities... Sopinka J. observed that the standard of proof does not require scientific certainty... The trier of fact, may, upon weighing the evidence, draw an inference against the defendant who does not introduce sufficient evidence contrary to that which supports the plaintiffs' theory of causation. In determining whether the defendant has introduced sufficient evidence, the trier of fact should take into account the relative position of each party to adduce evidence.

[444] The Supreme Court in *Ediger* has made it clear that where there is some evidence to support an inference of causation, the Court will consider whether the defendant has adduced sufficient evidence contrary to that which supports the plaintiffs' theory of causation. If no, then the trier of fact may draw an adverse inference.

The Factual Issues to be Decided Relevant to the Resolution of the Causation Issue

[445] Did Joshi's failure to suspect, diagnose and treat bacterial meningitis between 10:00 AM and 2:40 PM on February 13, 2006 and/or Shergold's failure to suspect, diagnose and treat bacterial meningitis between 3:15 AM and 8:00 AM on February 14 cause Barber's death, or, more precisely, has the Plaintiff proven that more likely than not, but for their specific breaches, Barber would not have died?

[446] The disagreement of the experts on the causation issue arose from the fact that Barber did receive Avelox shortly after 10 AM on February 13, 2006 and that he died nevertheless.

Has the Plaintiff Proved that but for the Defendants' Negligence Barber Would More Likely than Not Have Survived?

The Causation Evidence

[447] All of the medical witnesses agreed that Barber died from bacterial meningitis, specifically, pneumococcal meningitis caused by the Streptococcus pneumoniae bacteria.

[448] They all agreed that bacteria from pneumonia entered Barber's blood, crossed his blood brain barrier and seeded/infected his meninges, the membranes surrounding his brain and spinal cord, causing an immunologic response/inflammation and swelling/increased pressure inside his skull, a herniation and ultimately his death.

[449] On the Causation issue, counsel for the Plaintiffs relied on the evidence of Dr. Fong. The Defendants relied on the evidence of Dr. Powis, an internist and specialist in infectious diseases, and of Dr. Juurlink, a specialist in toxicology, pharmacology and epidemiology.

[450] For reasons already given, I have accepted the opinion of both Fong and Powis that had a spinal tap been done shortly after 10 AM on the morning of February 13, 2006 Barber's spinal fluid would have shown evidence of meningitis.

[451] I have accepted Fong's evidence p 564 that the sooner that Barber received the Standard of Care treatment for bacterial meningitis, the greater would have been his likelihood of survival.

[452] I have already found that had Joshi performed a lumbar puncture at 10:00 AM on February 13, 2006, he would have diagnosed bacterial meningitis and that Barber would have immediately received the Standard of Care treatment., which I have already found would have consisted of 2 grams of Ceftriaxone every 12 hours and 1 gram of Vancomycin every 12 hours, preceded by Decadron.

[453] In the evidence relating to breach of the Standard of Care, the Plaintiffs were seeking to demonstrate that Barber was showing signs of meningitis from 10AM on February 13, 2006 until the time of his death. The Defendants were attempting to demonstrate that Barber's condition was normal or close to normal.

[454] In the evidence relating to causation, the Plaintiffs were attempting to demonstrate that before the morning of February 14, although Barber was confused, his condition had not yet progressed to the point at which, with appropriate treatment, a cure would have been impossible or unlikely. The Defendants took the position that Standard of Care treatment, even at 10 AM on February 13, would have made no difference to Barber's outcome.

Evidence Supporting the Plaintiffs' Theory of Causation

Evidence Relevant to Barber's Likelihood of Survival had he Received Standard of Care Treatment

[455] The Plaintiffs relied on the evidence of Fong and also on the statistical evidence adduced by Powis, a witness who had been called to give evidence by counsel for the Defendants.

[456] Fong said p. 563 Barber's likelihood of survival was largely dependent on his condition at the time appropriate treatment was or should have been initiated.

[457] Fong opined that having regard to the prognosticating factors he enumerated, if the Standard of Care treatment had been administered to Barber shortly after 10 AM on February 13, 2006, Barber more likely than not would have survived without significant neurological deficits.

[458] He said the relevant prognosticators to be applied at the time treatment was started included pp. 472-477, 563; Barber's level of consciousness; the depth of his coma, if any; whether he was in septic shock; whether he had a history of severe co-morbid illness; whether he had multiple organ dysfunction [acute kidney failure, respiratory failure, pulmonary edema, bad liver disease, bad heart disease]; whether his blood pressure was low; whether his oxygen saturation was low; whether he had a history of acute seizures.

[459] Fong said p. 477 that at 10 AM on February 13, 2006, Barber had some alteration of consciousness p. 473. He said: "Based on just alteration of consciousness alone, we would still consider him… a low risk for high mortality [i.e., that he would fall in a low risk group p. 472]." He was not yet not in a deep coma. He did not have a history of severe co-morbid illness. His blood pressure was not low. His oxygen saturation was still good. His kidney function was normal. He had no history of acute seizures.

[460] Based on those prognosticators, Fong estimated Barber's probability of survival at about 90% [about a 10% mortality] pp. 475-477.

[461] As already noted, much of the statistical evidence at this trial on probable outcomes given certain scenarios was contained in medical literature that was cited in evidence by Powis, a witness called by counsel for the defendants. Powis said, having regard to those studies pp 1293-1294 that for all patients with pneumococcal meningitis the mortality rate is about 20% to 40%. He said at p 1415: "if you look at all comers with streptococcal pneumonia bacteria, certainly the balance would be of surviving and of not dying." 50% of all meningitis patients with streptococcal pneumonia bacteria would likely either die or have a poor neurological outcome.

[462] To support that conclusion, Powis cited Exhibit 25, an article entitled "*Clinical Features, Complications and Outcome in Adults with Pneumococcal Meningitis*" a prospective case series published in 2006 in Lancet Neurology. In that case series, 105.6 or [30%] of 352 streptococcus pneumococcal meningitis patients were reported to have died despite having received Standard of Care treatment. 175 of the 246.4 survivors, [being 70% of the 352], were reported to have had a favourable neurological outcome. 60 of the 246.4 survivors were reported to have had an unfavourable neurological outcome. A number of factors associated with a less favourable outcome were identified.

[463] Powis cited Exhibit 26 an article entitled "*Pneumococcal Meningitis in Adults – Spectrum of Complications and Prognostic Factors in a Series of 87 Cases*". The subjects studied in Exhibit 26 were patients 16 years of age or older who had been treated for pneumococcal meningitis between January 1984 and April 2002 in neurological intensive care units of large tertiary medical centres of 1400 beds or more. Despite having received Standard of Care treatment, 24.1% of those studied were reported to have died. Prognostic factors associated with poor outcome were reported to have included a low Glasgow Coma score, positive blood cultures and clinical diagnoses of pneumonia present at the time treatment was initiated.

[464] Powis also cited Exhibit 27, "*Overview of the Clinical Presentation Laboratory Features Antimicrobial Therapy and Outcome of 77 Episodes of Pneumococcal Meningitis Occurring in Children and Adults*", published in the Journal of Infection in 1994. In that article, poor prognostic factors at the time the Standard of Care treatment was administered were reported to have included age over 60 years, presence of a chest infection, high blood urea, low platelet, high cerebrospinal fluid proteins, metabolic acidosis, requirement for ventilation and provision of Mannitol therapy.

[465] In Exhibit 28, "*Clinical Evaluation of Pneumococcal Meningitis in Adults over a 12 Year Period*", published in 1989 in the European Journal of Clinical Microbiology and Infectious Diseases overall mortality was reported at 33.3%. Of the 25 survivors, 18 were reported to have had some neurological sequelae, including hearing loss, cranial nerve palsy or other focal deficits. 47% were reported to have had one or more sequelae. Of the six subjects who had had pneumonia, five were reported to have died and the sixth to have been left with a neurologic disability.

[466] In his evidence, Powis agreed that if the prognosticators mentioned in Exhibits 25, 26, 27, 28 of the medical literature that he had cited had been applied to Barber in order to project his likely outcome at the time the Standard of Care treatment should have been initiated [eg. 10 AM on February 13], Barber's likelihood of survival was generally good, not only for survival but for very mild, if any, impairment.

[467] In my view, the statistical evidence in the literature cited in evidence by Powis is generally supportive of the Plaintiffs' theory of causation. If adopted by this Court it would support the conclusion that if Barber had been treated with Standard of Care treatment shortly after 10 AM on February 13, on a balance of probabilities he would not have died or suffered from serious neurological deficits.

Evidence Supportive of the Defendants Theory of Causation On Likely Outcomes After Standard of Care Treatment

[468] Juurlink gave evidence that pneumococcal meningitis does not have a uniform presentation. Patients develop different degrees of brain swelling. Individual responses vary dramatically. The prognostic factors are imperfect. Some patients without typical prognostic factors for mortality will die.

[469] He opined that by the time Barber's blood cultures were drawn on the morning of February 13, it was very likely that the bacteria known to be present in his blood at the time his cultures were drawn had already colonized his meninges, at which point Barber's death was pre-ordained pp. 1473, 1475.

[470] Commencing when Barber was first assessed by Joshi on the morning of February 13, 2006, Juurlink did not believe that anything could have been done differently that would have changed Barber's eventual outcome. Barber was "one of the unfortunate people whose response to the infection was not within the control of even the best medical care ... [and that] he was destined to die regardless of that.

[471] Doctors Fong, Powis and Juurlink disagreed on the appropriateness and effectiveness of Avelox in the treatment of bacterial meningitis. Instead of Avelox, Fong opined that if Barber had received Standard of Care treatment, which at 10 AM on February 13, 2006 would have been Decadron, Ceftriaxone and Vancomycin, he would have survived. Powis and Juurlink opined that because he died after receiving Avelox he would have died even if he had received Standard of Care treatment.

Evidence as to Why Barber Received Avelox

[472] As mentioned earlier, Avelox was administered to Barber around 10 AM for treatment of suspected pneumonia, not for treatment of suspected meningitis.

[473] There was no evidence that Avelox would have been administered had meningitis been diagnosed at 10 AM on January 13, 2006. There was no evidence that Barber had an allergy or resistance to Ceftriaxone, Vancomycin or Decadron. Indeed later in the course of treatment at the Hospital, at different points in time, Barber was administered both Ceftriaxone and Decadron.

[474] The fact that Avelox turned out to be second line treatment for meningitis was pure coincidence.

[475] Powis opined p. 1367 that while the statistical information in Exhibits 25 to 29 that he had cited in his evidence as being authoritative may generally be used to predict outcomes after Standard of Care treatment, it should <u>not</u> be used here to predict what would have happened to Barber had he received Standard of Care treatment, because he said, in effect, that he had even better information than the information contained in the medical literature.

[476] Powis said, using hindsight and considering what actually happened to Barber was a better way to predict Barber's likely outcome if he had received Standard of Care treatment. pp. 1310-1311, 1321, than using the prognosticators taken from the medical literature.

[477] Given that Barber had received 400 mg of Avelox at 1020 AM on February 13 and that he had died, nevertheless Powis opined p. 1372 that even if, shortly after 10 AM on January 13, 2006, Barber would have received 2 grams of Ceftriaxone and I gram of Vancomycin, rather

than the 400 mg of Avelox he did receive at around the same time, Barber's outcome would not have been materially different.

Evidence of the Defendants Re: Use and Comparative Effectiveness of Avelox and the Standard of Care Treatment

[478] Powis gave evidence about the use and effectiveness of Avelox. He mentioned p. 1332 that although Avelox is not the Standard of Care treatment for meningitis, it does p. 1363 get into the brain quite well and kills bacteria. It does have activity against streptococcus pneumonia and would be considered acceptable care p. 1364. The Infectious Disease Society of America (IDSA) guideline does list it as an alternative antibiotic for the treatment of meningitis.

[479] The IDSA guideline was not in evidence so it was impossible for this Court to independently determine the extent of its recommended use of Avelox.

[480] Powis said that Avelox p 1363 is used to treat meningitis only in specific circumstances ... where a patient has a severe allergy to Ceftriaxone and or Vancomycin.

[481] Powis said at pp. 1332, 1366 he occasionally uses Moxifloxacin/brand name Avelox to treat brain infections.

[482] Juurlink did specifically say p. 1515 that Avelox is "an appropriate therapy for this type of Bacterial meningitis."

[483] Neither Powis nor Juurlink were asked about whether Avelox is a cell wall agent, about the significance of that fact, or about the comparative effectiveness of Avelox and of cell wall agents.

Evidence of the Plaintiffs Re the Comparative Effect of Standard of Care Treatment and of Treatment with Avelox

[484] Fong gave evidence on the use and effectiveness of Avelox. He said p. 559 that Avelox is <u>not</u> recommended for pneumococcal meningitis or situations where there have been gram positive blood stains. He does not use it for pneumococcal meningitis pp. 558, 559. Avelox is only used to treat "unusual" cases of meningitis.

[485] Fong disagreed with the IDSA guideline. He said p. 559 he has criticized it in books and papers. In his view, it is lacking in objective support, such as randomized studies. He said much of the data on which the IDSA guideline is based consists of personal opinion and impressions. Many of the so called "experts" have been sponsored by the pharmaceuticals: Fong gave evidence pp. 567, 558 that the Standard of Care antibiotics used for the treatment of bacterial meningitis, Ceftriaxone and Vancomycin are cell wall active agents that work by lighting the bacteria and disrupting the organism. Fong's uncontradicted evidence was that Avelox is <u>not</u> a cell wall active agent.

Effect of Decadron

[486] Powis also opined that administering Dexamethasone or Decadron would not have made any material difference to Barber's outcome, "even if it had been administered at the same time as the Moxifloxacin/Avelox" pp. 1371-1372.

[487] I found that comment to be odd, as I would have expected Powis to have opined on the effectiveness of Standard of Care treatment, the use of Decadron together with Ceftriaxone and Vancomycin, not the use of Decadron with Avelox. I took Powis's comment on the likely effect of Decadron to be limited to the effect of Decadron if it had been given to Barber along with the Avelox, and not to have extended to the effect of Decadron if it had been administered along with Ceftriaxone and Vancomycin at 10 AM on January 13, 2006.

[488] In his evidence in chief, Powis had mentioned Exhibit 29, "*Pneumococcal Meningitis in the Intensive Care Unit – Prognostic Factors of Clinical Outcome in a Series of 80 Cases*", in which the authors had reported that Decadron, a potent anti-inflammatory steroid may be of benefit if administered before or at the same time as Ceftriaxone and Vancomycin.

What would Have Happened if Barber Had Received Standard of Care Treatment Instead of Avelox ?

Have the Plaintiffs Proved that More Likely Than Not Barber Would Have Survived? If So Have they Proved that he Would have Survived Without Serious Neurological Sequelae?

[489] The nub of the causation issue is, to use the words quoted earlier from *Ediger*, whether, after considering all of the evidence, the defendants have adduced sufficient evidence on causation, contrary to the evidence supporting the plaintiffs' theory of causation? Is the Defendant's evidence sufficient to cause this Court to decide that the inference of causation that the Plaintiffs are asking this Court to make would not be warranted? Or is the Plaintiffs' evidence sufficiently strong that no inference of causation is necessary? After weighing all of the evidence, can this Court simply conclude, even without drawing any inference of causation in the Plaintiffs' favour, that the plaintiffs have proved that it is more likely than not that but for the specific breaches of the defendants, Barber would not have died [or suffered neurological deficit]

General Comments Re the Evidence About Avelox and Decadron

[490] The experts generally agreed that with immediate treatment, the fewer the negative prognosticating factors, the better the patient's chance of a good recovery.

[491] I have found that but for the negligence of Joshi, Barber should have received Standard of Care treatment [not treatment with Avelox], shortly after 10 AM on January 13, 2006.

[492] I have found that if meningitis had been diagnosed as it should have been shortly after 10 AM there would have been nothing to contraindicate administration of Decadron because no other antibiotics had yet been administered.

[493] In the medical literature in evidence before this Court, the outcome of patients after Standard of Care treatment, turned statistically on their history and condition at the time the standard treatment was initiated. Exhibits 25-29 published in various medical journals specifically reported on outcomes, including mortality and morbidity, of pneumococcal meningitis patients who had already developed pneumococcal meningitis but who had received Standard of Care treatment.

[494] In giving his evidence, Powis provided no reason to cause this Court to reject the statistical evidence that he himself had cited, except his statement that Barber had received Avelox at 10:20 AM on February 13, 2006 and that he had died nevertheless. Powis said that Barber's outcome after treatment with Avelox, "the actual outcome," was the best prognosticator of Barber's likely outcome had he received Standard of Care treatment. In effect, Powis opined that that fact should trump the medical /statistical evidence on the effectiveness of the Standard of Care treatment for pneumococcal meningitis.

[495] The only "actual outcome" of which Powis was aware was that Barber had died having received 400 mg of Avelox.

[496] Obviously, if Barber had received Standard of Care treatment and had died nevertheless, then that "actual outcome" evidence would have been a better prognosticator of outcome than the medical literature. However, Barber did not receive Standard of Care treatment.

[497] Powis did not, and could not have known the "actual outcome" if Standard of Care treatment had been administered rather than Avelox.

[498] Powis' evidence of "actual outcome" came with no statistical and little other evidence on the relative effectiveness of Avelox as compared to the Standard of Care treatment.

[499] On the little evidence before me about Avelox, including Powis' evidence, it is clear that Avelox alone is **not** recommended for general use in treating Meningitis. Together Ceftriaxone, Vancomycin and Decadron are.

[500] Evidence was that Avelox is suitable for use as a "second line" treatment for unspecified types of meningitis in specific limited circumstances where the Standard of Care treatment is contraindicated because of allergy or resistance.

[501] I accept Fong's evidence that Avelox is little used in the treatment of meningitis. I have not ignored that Juurlink did say Avelox can be used to treat this type of meningitis.

[502] Whether or not it is ever used to treat pneumococcal meningitis, there was no compelling evidence before this Court, statistical or otherwise, that treatment with Avelox is as effective in treating pneumococcal meningitis as the standard treatment with Ceftriaxone, Vancomycin and Decadron.

[503] I infer from the evidence about the use of the Standard of Care treatment over the use of Avelox, that the Standard of Care treatment is generally considered to be superior to and more effective than treatment with Avelox.

[504] I accept the uncontradicted evidence of Fong that Avelox is not a cell wall agent.

[505] I have considered Juurlink's evidence that the prognosticators set out in the medical literature are not 100% accurate and that some patients with no negative prognosticators do not survive even after receiving standard treatment.

[506] In Exhibits 25-29 the authors reported statistical survival and morbidity [including neurological outcomes] of patients who had been diagnosed with the same kind of meningitis that Barber had, who had received Standard of Care treatment even after their meninges had apparently been seeded with the same type of bacteria that Barber had been found in Barber's blood. The statistics cited in those articles reflected, contrary to the evidence of Juurlink, that specified numbers of such patients had nevertheless survived, many without serious neurological deficits. In other words, Juurlink's blanket statement that after Barber's meninges were seeded with pneumococcal meningitis, nothing would have changed the result is inconsistent with the statistical evidence contained in the peer reviewed medical literature to which Powis referred.

[507] This Court has considered the relative strength of the "actual outcome" evidence with Avelox and of the medical literature about the likely effectiveness of Standard of Care treatment.

[508] While I accept that the prognosticating factors set out in Exhibits 25 – 28 may not be 100% accurate, that some patients who do not have poor prognosticating factors or who have only a few poor prognosticating factor may die, even where Standard of Care treatment has been given, in my view, the articles in the medical literature cited to this Court, the prognosticating factors contained therein, and the statistical outcomes using those prognosticating factors, as mentioned therein, as well as the evidence of Fong about outcomes based on prognosticators that he cited are the best evidence before this Court as to Barber's probable outcome had he received Standard of Care treatment.

[509] I have concluded that medical literature containing statistical information on outcomes of patients who have received Standard of Care treatment [having regard to prognosticating factors applicable to the very kind of meningitis Barber had] is stronger evidence than the blanket assertions made by medical witnesses based on an "actual outcome" [that was not in fact an "actual outcome" at all, but was rather an outcome after a **different** inferior treatment].

Findings on the Effect of Standard of Care Treatment Had it been Administered at Various Times

[510] Causation cannot be assessed or proven in the abstract. The Plaintiffs must prove that it was more likely than not that Barber would not have died as a result of specific breaches at

specific times if Standard of Care diagnosis had been made and Standard of Care treatment had been provided.

10 AM February 13, 2006

[511] Powis conceded that at or shortly after 10 AM on February 13 using, the prognosticators set out in the medical literature, had Standard of Care treatment been provided, then Barber's chances were good, not only of surviving but of surviving without neurological or with only minor neurological deficits. I find in giving this evidence that Powis was agreeing that at 10 AM on February 13 Barber had better than average prognosticators, better prognosticators than the average of "all comers".

[512] While I have found that Barber's consciousness was already impaired at 10 AM and that he was already showing signs of brain dysfunction, he was not yet comatose. He had no co morbid illnesses, no kidney, or other organ dysfunction.

[513] In summary, on the basis of the medical literature and the evidence of Fong that Barber would likely have survived without significant neurological deficit if he had been treated with Decadron, Ceftriaxone and Vancomycin shortly after 10 AM on February 13, 2006, given Barber's absence of poor prognostic factors at 10 AM other than a history of pneumonia, I find that the plaintiffs have satisfied the onus of proving that more likely than not, but for the negligence of Joshi in failing to diagnose and properly treat bacterial meningitis at 10:00 AM on February 13, Barber would not have died or suffered serious neurological sequelae.

Re: Shergold

[514] Powis said in cross-examination p. 1436 that applying the prognosticating factors set out in Exhibits 25, 26, 27 and 28, at 3:15 AM, if Barber were as alert as Shergold said he was, looking prospectively, that Barber would have had better than a 50% chance of survival and about a 50% chance of survival without serious neurological deficits.

[515] By 5 AM, Barber was unable to stand or void independently. Powis opined that as of 5 AM on the morning of February 14, 2006, it was more likely than not that Barber's death could not have been avoided, regardless of any intervention that was taken.

[516] I find that even if Shergold had diagnosed meningitis at 3:15 and started standard treatment immediately, Barber's outcome would have been no different.

[517] Therefore I find that the plaintiffs have not proven causation and therefore liability in Shergold's case.

ISSUE 3 - DAMAGES

The facts relevant to the assessment of damages are briefly set out below:

[518] Barber and Annette were married in 1991. Annette described her relationship with her husband as one of unconditional love and moral support, despite their many financial and familial difficulties. Counsel for the Defendants conceded that Barber and Annette were close. I find they had a close and loving relationship.

[519] I accept Annette's evidence that between 1991 and 1997 they were a happy family. Similarly, I find that Barber and his two daughters had a close and loving relationship. While they were growing up, he helped them with their homework and enjoyed leisure activities with them.

[520] While Kristyanna is Annette's daughter by a previous relationship, I accept the evidence that Barber loved and treated her as his own. Kristyanna gave evidence that he was the only father she had ever known. She characterized him as "very involved". He assisted her with homework and in gaining entrance into a French immersion programme.

[521] Ashton gave evidence that as she was growing up her relationship with her father was "tremendous". He supported her when she was bullied. He encouraged her to take art and guitar lessons. He helped her gain admission into a high school specializing in the arts.

[522] I accept Annette's evidence that Barber did much of the laundry, cooking and cleaning.

[523] Annette gave evidence that on Halloween, October 31, 1997, after she and Barber had taken their daughters out trick or treating, the police came to their house and arrested Barber on charges of writing NSF cheques. I accept Annette's evidence that at that time Barber was jailed for a period that lasted for "three collection periods" on the mortgage on their home.

[524] I accept Annette's evidence that following that incarceration, Barber was employed for a time in a volunteer capacity and he received some income from a pottery studio. He was not allowed to have his own bank account or to write cheques.

[525] In 2002, Barber earned $19,640; in 2003, $22,635.

[526] Annette said that beginning in January 2004 Barber was incarcerated for two months for similar offences. At that time the family moved to Annette's father's home.

[527] Kristyanna said in 2004 at the time of Barber's second incarceration when she was 16, she went to live with her boyfriend's parents. She did not live at home thereafter. Nevertheless, she continued to speak frequently with Barber.

[528] I accept Annette's evidence that Barber's dream was that Kristyanna would come home.

[529] Annette gave evidence that at the end of 2005 they were "trying to put their lives together." He knew he had to be "proper." Annette was working at a Giant Tiger's store and trying to minimize the financial pressures on her husband.

[530] In December 2005, Annette's father sold the house where the family had been living.

[531] In January 2006, Barber was looking for work.

[532] On January 31, 2006, Annette said she received a call from the police. Although she was not informed about the specific charges against him at that time, she later learned that her father had brought charges of fraud against her husband.

[533] Annette said at that time Barber was apologetic and sorrowful. He told her he would go to see a psychiatrist. She said she believed he would change. He did not want to lose his family.

[534] Ashton gave evidence that although she was upset with her father at that time, he apologized and "was committed to making it right."

[535] On January 31, 2006, Annette dropped Barber off at 55 Division. The next time Annette was allowed to see her husband, he was in the Hospital already in a deep coma.

[536] After Barber's death, Annette gave evidence that she was very lonely and withdrawn. She had and still has difficulty forming connections with others.

[537] After Barber's death, Ashton said she had difficulty at school and saw a counsellor. She was accepted to a university program in Paris, but withdrew for reasons unrelated to her father's death. She is currently employed and has tentative plans to return to university.

[538] Kristyanna gave evidence that she was devastated by her father's death.

The Family Law Act Claim

Loss of Care Guidance and Companionship

[539] The Plaintiffs are seeking damages pursuant to the Family Law Act for loss of Barber's care, guidance and companionship that they might reasonably have expected to receive from Barber had he lived.

[540] I have found on the evidence of Annette, Ashton and Kristyanna that although they struggled with many adversities, they were a close family. As a result of his death Annette, Ashton and Kristyanna have suffered and will continue to suffer loss of the care, and companionship.

[541] Counsel for the Defendants suggested a range of damages under this head for Annette of $60,000 - $90,000, Ashton of $30,000-$50,000 and Kristyanna of $5,000-$15,000.

[542] Having regard to the evidence and findings already mentioned, including the nature and loving quality of the of their relationships, their ages, Annette's inability or reluctance to form new relationships, I assess Annette's damages under this head at $60,000. [In arriving at this number I have already considered contingencies.]

[543] I do not differentiate enough between the situation of Ashton and Kristyanna to assess their damages differently. While Kristyanna's relationship with her father was tested during her teenage years, had Barber lived they would have had many more years to continue their relationship. I assess each of the daughters' claims under this head at $30,000.

Loss of Financial Support

[544] Annette's uncontradicted evidence was that she and Barber pooled their income and relied on each other to cover their monthly expenses and to put food on the table.

[545] Barber was trained and worked primarily as a truck driver. Annette gave evidence that her husband liked his career and that his income tax returns reflected his true earnings.

[546] During the five years immediately preceding his death Barber had been incarcerated twice He had been working part time and his income had varied significantly year over year. His total pay had been under $5,000 in two of the five years preceding his death. However, in 2002, he had earned $19640, in 2003, $22,635 and in 2005, the last full year prior to his death, $11,761. In January 2006, a third possible incarceration was looming.

[547] I accept Annette's evidence that after Barber had been incarcerated in 2004, it had been difficult for him to find work. Barber's criminal record had also made it difficult to re-establish old connections.

[548] Annette and Ashton have clearly suffered some financial loss as a result of Barber's death.

[549] Two different approaches and sets of assumptions were used in the quantification of that financial loss by the economic experts who prepared reports filed as evidence at the trial.

[550] Collins Barrow, the firm retained by counsel for the Plaintiffs, made the following assumptions: "Scenario 1" Barber would have worked full time (40 hours a week) in a minimum wage position until retirement at age 65; "Scenario 2" Barber would have earned the national average of full and part-time earnings of transport truck drivers in Canada until retirement at age 65.

[551] On both scenarios, Collins Barrow used a modified sole dependency approach; a dependency rate of 60% for Annette, and a 4% dependency rate for Ashton Barber until age 22. These were the same rates employed by the Defense expert.

[552] Collins Barrow's dependency loss calculations accounted for inflation, possible Canada Pension Plan and Old Age Security benefits, and used the discount rate prescribed by the Rules of Civil Procedure. General contingencies, or the possibility of Annette's remarriage were not reflected. No gross-up for income tax was included.

[553] In its amended loss Schedules, Collins Barrow assumed a life expectancy for Barber reduced by six years from general male life expectancies by reason of his pre-existing health conditions.

[554] On these assumptions, Collins Barrow estimated the total financial loss for Annette and Ashton on scenario one at $269,880. On scenario two, Collins Barrow estimated the financial loss at $492,650

[555] In my view, Collins Barrow made two minor incorrect assumptions about Barber's earning capacity , specifically, that Barber had some unreported earnings not reflected on his tax returns and that Barber would have sought alternative employment had he not been earning at or near a market rate.

[556] The Defendants filed in evidence a report from Campbell Valuation Partners Limited ("Campbell"), dated August 1, 2014, together with updated schedules dated November 24, 2014 Campbell estimating Annette's and Ashton's past and future loss of dependency income on two scenarios (a) On Scenario 1 Campbell assumed that Barber would have continued to earn income to age 62 consistent with his actual average earnings from 2001 to 2005, including his 2004 period of incarceration. (b) On Scenario 2 Campbell assumed that Barber would have continued to earn income to age 62 consistent with his average earnings from 2001 - 2003 and 2005, excluding 2004 when Barber was incarcerated.

[557] Like Collins Barrow, Campbell assumed a life expectancy reduced by of 6 years and a dependency rate of 60% for Annette, based on a modified sole dependency approach, and a 4% dependency rate for Ashton.

[558] Campbell's dependency loss calculations accounted for inflation, possible Canada Pension Plan and Old Age Security benefits, and reflected the discount rate prescribed by the Rules of Civil Procedure. They did not factor in any general contingencies, the possibility of Annette's remarriage. They did not include a gross up for income tax. They did not include any specific contingencies or adjustments for morbidity [or mortality, aside from a reduced life expectancy of 6 years to account for Barber's pre-existing health conditions.

[559] The updated Campbell schedules reflected the following estimates of (combined past and future) dependency losses.

[560] (a) Scenario 1 loss of financial support for Annette $182,900 and for Ashton $2,200 (b) scenario 2 $199,200 for Annette and $2,500 for Ashton.

[561] Counsel for the Plaintiffs submitted that this Court should conclude that Barber would have continued to work for as long as he was able and would have continued to provide financial support and household services to his family had his death not occurred.

[562] Counsel for the Plaintiffs submitted that accepting the Defendants' approach would seriously undercompensate Annette, since it assumed a retirement age of 62 and gave no weight to Annette's evidence that she believed her husband's conduct was going to change for the better.

Conclusion on Financial Loss

[563] I accept the approach of the Defendants on scenario one as most reflective of Barber's probable lost earnings had he survived without serious neurological deficit and of Annette's and Ashton's losses based on those earnings

[564] I assess Annette's loss of dependency at $182,900 and Ashton's at $2,200.

Loss of Household Services

[565] Counsel for the Defendants in final written argument conceded that Barber was a supportive husband and father who contributed to many areas of the household at various points during his marriage I have accepted Annette's evidence that when he was not working, Barber did the much of the cooking and cleaning in the family home.

[566] Collins Barrow, using statistics on the average time spent by males on household work, then reduced it by 40% to account for time Barber spent providing himself with household services, then used an economic consulting firm's replacement rate for housekeeping services, to estimate the loss of household services at $351,659. It did not make any further reductions for the possibility that Barber might obtain full-time work, or do less household work if and when his health deteriorated or for other reasons.

[567] Campbell assumed that Barber would have provided 50% of the household services that Collins Barrow assumed he would provide [reflecting times when it assumed Barber would have been incarcerated, or suffering from deteriorating health]. Campbell's amended Schedules estimated Barber's past and future household services to be worth $91,200 on either Scenario 1 or Scenario 2.

[568] Its estimate did not reflect the possibility that Barber would have provided less household services if he were to ever work full time.

[569] I generally find Campbell's assumptions to be more realistic than those of Collins Barrow. I have not reduce the amount for the contingencies that Barber would have worked full time because I have found he would have worked part-time in the future had he survived.

[570] I assess damages under this head at $95,000.

DISPOSITION

[571] Judgment will go against Dr. Joshi in the following amounts:

a) To Annette Barber $60,000 for loss of care and companionship, $182,900 for financial loss and $95,000 for loss of household services.

b) To Ashton Barber $30,000 for loss of companionship; $2,200 for financial loss.

c) To Kristyanna Sauder $30,000 for loss of companionship.

d) Interest pursuant to the *Courts of Justice Act.*

[572] Counsel may make costs submissions in writing on or before July 30, 2015.

M.A. Sanderson, J.

Released: July 7, 2015

CITATION: Barber v. Humber River Regional Hospital, 2015 ONSC 1838
COURT FILE NO.: 08-CV-347579PD3
DATE: 20150707

ONTARIO

SUPERIOR COURT OF JUSTICE

BETWEEN:

ANNETTE BARBER, ASHTON JESSICA BARBER, by her Litigation Guardian, Annette Barber, and KRISTYANNA SAUDER

Plaintiffs

– and –

HUMBER RIVER REGIONAL HOSPITAL, DERRICK CHANG, DAVID JOHN SHERGOLD, VIRAT JOSHI, STEPHEN ALLAN GLAZER, HER MAJESTY THE QUEEN IN RIGHT OF THE PROVINCE OF ONTARIO and THE SUPERINTENDENT OF THE TORONTO WEST DETENTION CENTRE

Defendants

REASONS FOR DECISION

M.A. Sanderson J.

Released: July 7, 2015