

**IN THE HIGH COURT OF NEW ZEALAND
CHRISTCHURCH REGISTRY**

**I TE KŌTI MATUA O AOTEAROA
ŌTAUTAHI ROHE**

**CRI-2017-009-007857
[2019] NZHC 941**

THE QUEEN

v

HAYDEN ANTHONY GRAY

Hearing: 20, 21, 22, 25, 27 March 2019

Appearances: D L Elsmore and R E Harcourt for the Crown
E C Bulger for the Defendant (at trial), J M Stringer for the
defendant (at verdict)

Judgment: 1 May 2019

**JUDGMENT OF OSBORNE J
(Reasons judgment)**

[1] Hayden Anthony Gray faces two charges in relation to his conduct towards his infant son, Carter Hutton. Carter was born on 24 June 2017. He suffered injuries in the first month of his life. He subsequently died, at home under palliative care, on 25 July 2018.

[2] A further charge was dismissed under s 147 Criminal Procedure Act 2011. For convenience, the remaining two charges have been renumbered in this judgment to be Charges 1 and 2.

[3] The charges are:

Charge 1

Wounding with intent to cause grievous bodily harm, under s 188(1) Crimes Act 1961, alleging that Mr Gray, between 24 June and 24 July 2017 at Christchurch, with intent to cause grievous bodily harm to Carter Hutton, caused him grievous bodily harm.

Charge 2

Wounding with intent to cause grievous bodily harm, also under s 188(1), alleging that Mr Gray on 24 July 2017 at Christchurch with intent to cause grievous bodily harm to Carter Hutton, caused him grievous bodily harm.

Charges under s 188 Crimes Act

[4] To prove the charges under s 188(1) of the Crimes Act the Crown must prove that on each occasion or period:

- (a) the defendant intended to cause grievous bodily harm to Carter; and
- (b) he did cause grievous bodily harm.

[5] “Grievous bodily harm” means really serious hurt or harm.¹

Proof of intention

[6] The Crown must prove specific intent. Proof of recklessness does not suffice. It is not enough that the Crown proves that the defendant had foreseen that such harm as occurred was a likely consequence of the defendant’s conduct or that the defendant had been reckless when such harm results.²

¹ *R v Waters* [1979] 1 NZLR 375 (CA) at 379.

² *R v Belfon* [1976] 1 WLR 741 (CA).

[7] On the other hand, the judge of fact may find that the defendant intended the harm to occur if the defendant knew that such harm was a certain or near-certain outcome of the conduct. Such a situation is illustrated by the facts which occurred in *Albert v R*, where the defendant discharged a shotgun at relatively close range at the lower part of the complainant's body.³ The defendant accepted in cross-examination that deliberately shooting someone even in the legs would likely cause serious injury. The Court of Appeal found that the jury was entitled to infer that the defendant intended to cause serious injury, observing:⁴

...grievous bodily harm from such a shot seems inevitable and the intention of the shooter.

Proof of each charge

[8] In relation to each charge, the Crown must prove each essential element beyond reasonable doubt. Unless there is such proof, Mr Gray is presumed to be innocent on that particular charge.

[9] The Crown must prove each charge separately. I cannot find the defendant guilty on the basis that, if he has been proved to be guilty on one charge, then he must be guilty on another. The Crown has offered the evidence in relation to each of the charges as propensity evidence about the defendant on the other charge. In particular the Crown seeks to rely on the evidence which the Court finds proven on charge 2 to support the evidence in relation to charge 1 when considering the issue of whether Mr Gray was responsible for inflicting historic fractures, which gave rise to charge 2.

Propensity Evidence

[10] Under s 43(1) Evidence Act 2006 the evidence found proven on charge 2 may only be admitted as propensity evidence if it has a probative value in relation to the issue in dispute and under charge 1 which outweighs the risk that the evidence may have an unfairly prejudicial effect on Mr Gray as the defendant.

³ *Albert v R* [2011] NZCA 526.

⁴ *Albert v R*, above n 3, at [21] – [22].

[11] For reasons which I will explain, the key issue in dispute in relation to the proposed propensity evidence is whether historic fractures were caused by Mr Gray.

[12] Under s 43(3) Evidence Act there are a number of factors which I may consider when assessing the probative value of the propensity evidence. In this case, relevant factors include:

- (a) that there had been at least two occasions when Carter's ribs sustained fracture injuries (s 43(3)(a));
- (b) there is a close connection in time between the occurrence of the injuries, being approximately two weeks (s 43(3)(b));
- (c) while the historic injuries were to posterior ribs and the acute injuries to anterior ribs, the evidence is that both sets of rib injuries are attributable to extreme squeezing of the chest and abdomen (s 43(3)(c)); and
- (d) the nature of the rib injuries suffered by Carter is extremely rare in infants (s 43(3)(f)).

[13] Weighing these factors together, I assess the probative value of the propensity evidence as high.

[14] I must then consider whether that high probative value outweighs the risk that the evidence on charge 2 may have an unfairly prejudicial effect on Mr Gray. In taking account the matters I am required to consider under s 43(4) Evidence Act, it is significant that this has been a trial before a Judge alone. That is a point which the Court of Appeal has noted as relevant.⁵ That said, I recognise as observed by Venning J in *Hamilton v R*,⁶ that the Court needs to consider whether the admission of propensity evidence may tend to colour a judge's consideration of a defendant's case so that the Judge may, without intending to, give disproportionate weight to the propensity evidence.

⁵ *Otimi v R* [2012] NZCA 216 at [31] and [35].

⁶ *Hamilton v R* [2013] NZHC 3101 at [34].

[15] Here, the Crown's intended use of the evidence on charge 2 is in relation to a single other charge. As judge of fact, it will remain my responsibility to consider distinctly the evidence specifically relating to each charge before bringing into consideration the value of the propensity evidence on charge 2 in relation to charge 1.

[16] The defendant elected not to give or call evidence, as was his right. No inference is to be drawn from that election. The Crown's case must be proved on the evidence adduced.

[17] The evidence included two recorded interviews between Police officers and the defendant, as well as evidence of oral statements made by the defendant to other people. The defendant's statements fall to be taken into account in the assessment of the evidence as a whole.

Carter's birth and homecoming

[18] Carter's parents were Mr Gray and Megan Hutton. They had been a couple for some years and were engaged to be married. Carter was a much-wanted baby, Ms Hutton having experienced two miscarriages before her pregnancy with Carter. Ms Hutton in pregnancy experienced gestational diabetes which was controlled.

[19] Carter was a full-term, 3140 gram infant, born (after a lengthy labour) by caesarean section with forceps assistance. Ms Hutton in her evidence described the birth as "traumatic". Carter's weight, length and head circumference at birth were normal. His neonatal course was complicated by hypoglycaemia, ABO incompatibility and jaundice, all of which were satisfactorily treated in the Neonatal Intensive Care Unit. On 28 June 2017, he was discharged in healthy condition to his parents' care at their home in Parklands, Christchurch.

[20] Ms Hutton had taken maternity leave from her job to be a full-time carer. Mr Gray's work at the time was at Rolleston, approximately an hour's drive from home. He would set off for work shortly after 6.00 am and return home around 6.00 pm.

[21] The couple settled into a routine of care and feeding. Initially, Carter was breast-fed and then, after trouble latching on, was fed with expressed breast milk, supplemented with formula. Mr Gray generally attended to a feed around 10.30 pm after Ms Hutton went to bed around 9.30 pm. Mr Gray would occasionally assist with a feed earlier in the evening after getting home. Ms Hutton attended to the other feeds, including those through the rest of the night.

[22] There were weekly (Tuesday) visits by Ms Hutton's midwife. Both Mr Gray's and Ms Hutton's mothers came around and gave support.

[23] Over the next few weeks, the couple had two outings with Carter at weekends to follow sports events and walks in the neighbourhood with Carter in his pram. Ms Hutton's first outing without Carter came later on 24 July 2017 (to which I will return at [38] below).

[24] On 12 July 2017, Ms Hutton noted a swelling in Carter's genitals. Ms Hutton went with Carter to hospital where he was found to have an infection which was treated successfully over subsequent days with an anti-bacterial ointment.

[25] Ms Hutton in her evidence explained that Carter would on occasions be grizzly but "not anything out of the ordinary". He did not seem to like being changed and would cry when being changed. Once fed or changed, he would settle and be "absolutely fine". The midwife stated that on her visit on 18 July 2017, Ms Hutton reported that Carter had just gone to sleep after a lot of crying over a prolonged period, which the midwife understood had often happened. Dr Seers, the locum general practitioner (GP), who saw Ms Hutton and Carter the previous day, described Ms Hutton's main concern that day as relating to Carter's difficulty with feeding and spending periods of 20 to 30 minutes upset. The doctor considered that Carter's reported crying was normal for his age (of 24 days).

[26] Ms Hutton described herself and Mr Gray as deprived of sleep over these weeks. Ms Hutton described Mr Gray, when asleep, as a "deep sleeper". Mr Gray in an interview with the police also described himself as "quite a heavy sleeper" who did not during the night actually often hear Carter cry a lot. For her part, Ms Hutton

described herself as wanting to get to sleep when Carter was sleeping because she was exhausted.

[27] Ms Hutton confirmed in her evidence that she never saw Mr Gray do anything which might harm Carter, never saw him handling Carter in a rough fashion, and never saw anything where she was worried for Carter's safety, despite since racking her brains for such events. It is clear from her answers in evidence, together with her prompt raising of issues (and when she observed them) with the GP and the midwife, that Ms Hutton is by nature someone who would have taken action had she suspected anything untoward had happened to Carter.

17 - 18 July 2017

[28] Ms Hutton, upon Carter's discharge from hospital following his genital infection, was told to make an appointment with the GP to make sure that everything had cleared. She did so. She saw Dr Seers on 17 July 2017. Dr Seers examined Carter and concluded that the infection had resolved with the treatment. On Dr Seers' evidence there was also the discussion concerning Carter's difficulty with feeding and periods of crying. Ms Hutton does not recollect discussing Carter's difficulty with feeding and his crying with the doctor.

[29] What was also discussed between Ms Hutton and the doctor on 17 July 2017 was what Ms Hutton had noticed as a slight bruising around Carter's eyes. She said that it looked like Carter had severe blood shots in his eye. She took a photo of Carter's face during this time, 17 July 2017, but cannot remember whether it was before or after she saw the doctor. She thought the eyelids had "sort of eyeliner". She also said that the sides of the eyes themselves appeared quite bloodshot. Her photo of the eyelids shows a reddish-darkness on the upper eyelids and a similar but not as extensive discoloration on the lower eyelids.

[30] In a separate photo taken of Carter in the bath at 6.36 pm on 18 July 2017, Carter has his eyes open. The left eye in particular has visible redness to the white area (conjunctiva) on the inside of his left eye. Ms Hutton described what she had seen at the time (comparing it to the photograph of Carter in the bath) – she stated that in the photo the eye is obviously bloodshot but "it was worse, it was more like you've

burst a blood vessel in your eye and it was red". She described the bruising on the eyes as having been a bit more subtle by the time she saw Dr Seers.

[31] Dr Seers in giving his evidence had to rely on his notes (rather than independent memory) to describe what he saw that day. In his notes he stated that there was a faint purple discolouration on upper eyelid borders, left and right, with "the eyes otherwise normal with normal reflexes". When shown the photograph of Carter's eyelids, Dr Seers accepted that there appeared to be purple discolouration on the lower eyelids on both sides (as well) which he had not noted in his examination.

[32] Dr Seers concluded at the time of his examination on 17 July 2017 that what he was looking at was a birthmark, being a vascular malformation. He did not consider bruising a possibility. Dr Seers has since read a report that the discolouration subsequently resolved within a timeframe which he said in evidence would not be consistent with a birthmark. He also said that, in his opinion, the photo taken at 6.04 am of the morning of 17 July 2017 is not consistent with the discoloration being birthmarks.

[33] Ms Hutton's 17 July visit to Dr Seers was on a Monday. She was due to see her midwife the following day on her usual Tuesday visit. The midwife gave evidence that she made that visit. She stated that she believed that Ms Hutton had taken Carter to the GP the day before (as had indeed occurred).

[34] In her evidence, Ms Hutton placed her discussion with the midwife as having occurred before her visit to the doctor. On the evidence I cannot resolve the difference in timing but it is immaterial.

[35] In any event, Ms Hutton did raise with the midwife the appearance of Carter's eyes both as to the slight bruising around them and the fact that his eyes appeared bloodshot.

[36] The midwife stated that she saw what she thought looked like really, really fine eyeliner across his top lid, which she had not seen before. She stated that she had suggested that, if Ms Hutton was concerned, she should take Carter to the GP.

Comparing her recollection with what the 17 July photo of Carter's eyelids shows, the midwife stated that in the photo the eyelids looked more bruised than when she had seen them. She stated that if she had seen the photos she would have thought that this was a baby with bruised eyelids, whereas what she had seen was not as obvious in the photos. In her evidence, the "black underneath" in the photos was not as prominent or as dark when she had seen Carter.

[37] Based on her discussions with the midwife and the general practitioner, Ms Hutton took her concern over Carter's eyes no further.

24 July 2017

Ms Hutton goes out for lunch.

[38] 24 July 2017 was a Monday.

[39] Ms Hutton had arranged to meet a friend for coffee that day. She was planning to take Carter with her because it was expected to be a normal work day for Mr Gray. The friend was available for only her one-hour lunch break so it was planned to be a relatively small outing.

[40] Mr Gray had from the Sunday been experiencing some neck and back pain. He and Ms Hutton had had a former workmate of Mr Gray over for dinner on the Sunday evening. In a subsequent statement to the Police, Mr Gray described himself during the Sunday night as having "just kept waking", with Ms Hutton "hopping up and down" to attend to Carter.

[41] Mr Gray woke around 5.50 am, messaged work that he was not going to be in because of the neck issue, and then dozed back off to sleep.

[42] Ms Hutton got up first. Around 8.30 am to 9.00 am, Mr Gray got up and dressed. In his statement to the Police, he described himself on waking as "bright-eyed, bushy-tailed kind of thing". He suggested that Ms Hutton leave Carter with him while she went out.

[43] Ms Hutton stated that she left the house probably around 12.40 pm. Ms Hutton stated that when she left, Mr Gray was feeding Carter (with a bottle). She described the usual routine from that point as being that after Carter had been fed and burped, there would have been a bit of play-time and then a settling of Carter for his afternoon nap. At the point she left, she described leaving Mr Gray with Carter (sitting on the three-seater couch in the lounge). She described the situation:

They were sitting, he just had Carter in his arms, I'm pretty sure it was just Carter was resting on his chest. Yeah, and I just left, you know, fine, leaving with no concerns, worries, or anything.

[44] Ms Hutton then drove to meet her friend and they had lunch.

[45] She was travelling home when she received a telephone call at 2.45 pm from Mr Gray. She could tell from his voice that something was not right. She asked: "What's happened?" to which Mr Gray replied, "Carter's gasping for air". Ms Hutton asked Mr Gray: "Why are you ringing me? Hang up, call an ambulance". She then drove home as fast as she could.

The ambulance is called / CPR is administered

[46] Within a minute of calling Ms Hutton, Mr Gray called the emergency services on 111 and was connected to St John Ambulance.

[47] The call-taker obtained initial details from Mr Gray and then asked Mr Gray to describe exactly what happened. Mr Gray stated:

Um, I fell asleep with my baby in my arms and woke up to him gasping and he's like, yeah, gasping and like limp and that.

[48] To further questions, Mr Gray confirmed that Carter was awake, conscious but limp and floppy, breathing but gasping and with eyes open a little bit. Mr Gray was in the course of these exchanges when Ms Hutton arrived home.

[49] Mr Gray at that point was sitting on the couch with the phone in one hand and Carter in his other arm. Ms Hutton sat next to Mr Gray and lifted Carter off him. She observed Carter to be limp and turning blue. She put Carter on the floor as he spoke to the call-taker.

[50] The call-taker then gave instructions to administer Cardiac Pulmonary Resuscitation (CPR). The call-taker first gave instructions for mouth-to-mouth resuscitation. Ms Hutton attended to this. She was instructed to blow two puffs of air into the lungs about one second each and just enough to make sure the chest rise with each breath. She did so.

[51] The call-taker then gave instructions to Mr Gray to place two fingers on the breast-bone at the centre of Carter's chest, right between his nipples and push down 4 cms with only his fingers touching the chest. That was to be done hard and fast 30 times, at least twice per second, with the chest to come all the way up between pumps. The call-taker counted out the steps. Mr Gray acted as instructed.

[52] Mr Gray and Ms Hutton continued the CPR until, after approximately 10 minutes ambulance officers arrived and took over the resuscitation. The officers put monitoring equipment on Carter. They observed him to have a fast heart rate, indicating that he was clearly short of oxygen but was not in cardiac arrest. The officers' focus was to provide airway support and oxygenation. In the course of the officers' attention to Carter, his colour improved from bluish to pinkish.

[53] During this time Mr Gray explained to the Intensive Care Paramedic that he had fallen asleep on the couch with the baby and had woken up lying on top of the baby. In response to a question, Mr Gray stated that he had been asleep for 10 minutes when he woke up lying on the baby.

[54] Carter was transferred with Ms Hutton by ambulance to Christchurch Hospital, following with Mr Gray following with another St John observer in a car.

[55] The Intensive Care Paramedic observed Carter during the ambulance trip to be still unresponsive and requiring support for breathing whereas a normal one month old would be active and may be crying, looking around and alert. The symptoms indicated to the paramedic potential brain damage, which based on the history he had been given, was likely to have been caused through a lack of oxygen. By reason of Carter's condition, the paramedic did not do an examination for other injuries but basically

treated the hypoxia. The paramedic saw no obvious external injuries during treatment or transport.

Carter's admission to hospital and initial observations

[56] Carter was taken directly to the Emergency Department at Christchurch Hospital. A paediatric consultant, Dr Alison Daniell, was awaiting his arrival.

[57] Dr Daniell graduated with a medical degree in 1989, obtained a post-graduate Diploma in Child Health in 1992 and became a Fellow of the Royal Australasian College of Physicians in 1998. She has worked as a consultant paediatrician in Canterbury since 1998 and in general paediatrics since 2001. She is regularly the on-call paediatrician at Christchurch Hospital responsible for the medical care of acutely unwell children. Her work includes assessing children referred to the hospital with injuries or other child protection concerns. She is one of two paediatricians involved in the peer review of the management of children who have been seen in the Service and for whom there may be child protection concerns.

[58] Her observations of Carter on admission included:

- (a) Breathing apparatus was breathing for Carter.
- (b) Carter was unresponsive.
- (c) Carter had a heart rate and palpable pulses but blood was not satisfactorily getting to his extremities.
- (d) Carter's chest, on a stethoscope examination, was normal with no other findings at that time.
- (e) Dr Daniell did not observe any injuries. Carter's fontanelle felt really hard and Dr Daniell initially thought that it had closed over already.

The medical evidence

Evidence as to Carter's injuries

[59] Following his admission, Carter remained at Christchurch Hospital for five days before he was released to the guardianship of Ms Hutton's mother. Evidence was given as to Carter's period of hospitalisation by a number of medical witnesses including Dr Daniell, the paediatric consultant who attended Carter on admission; Philippa Depree, a paediatric radiologist; Mark Elder, a consultant ophthalmologist and Associate Professor in ophthalmology and (through an admitted statement) Paul Shillito, a consultant paediatric neurologist.

[60] I leave to one side for the moment the cause of Carter's injuries. The evidence as to the injuries themselves – that is to say, the examination and the identification of them – was clear. The witnesses were not challenged in relation to their evidence on the following matters, which I find to be established beyond reasonable doubt.

Carter's eyes

[61] On a clinical examination very soon after his admission, Carter's eyes were found to have suffered extensive retinal haemorrhaging in all areas of the retina in all four quadrants of both eyes. There was so much haemorrhage that there was very little normal retina visible. The bleeding involved the macula and persisted to the retinal periphery in both eyes. The retinal haemorrhaging was in all retinal layers (that is to say, pre-retinal, intra-retinal and sub-retinal). Dr Elder stated that, having been in practice approximately 30 years, he was unable to think of seeing a child with so much retinal haemorrhage in the last 20 years.

[62] Dr Elder following his clinical examination obtained a set of magnetic resonance images (MRI) of both eyes. He gave the same description to the eyes from the MRI as he had from his clinical examination.

[63] Through further clinical and MRI examinations, Dr Elder between 7 and 14 August 2017 observed very substantial resolution of the retinal haemorrhaging in both Carter's eyes.

[64] On a further examination on 17 October 2017, Dr Elder found the haemorrhages to have completely gone with both retinas normal.

[65] Dr Elder was cross-examined as to the mechanism which may cause such injury but not as to the nature and extent of the injuries.

Carter's clonus

[66] Carter, upon transfer to the Intensive Care Unit, displayed movements. The movements were such that they might have been caused by seizures. He was arching his back and twisting his arms around, and lip-smacking. Carter was initially treated with an anti-convulsant but that treatment was discontinued the following day. By then, electroencephalogram "EEG" monitoring results were available. Dr Paul Shillito, a consultant child neurologist, reviewed the results and conducted a clinical examination of Carter. He observed Carter to be suffering clonus, a phenomenon in which a joint demonstrates repetitive flexion extension movements. His evidence is that clonus is an abnormal sign indicative of brain or spinal cord injury. Dr Shillito found that the movement could be stopped with restraint of the limb, a finding that confirmed that the movement was due to clonus and not due to an epileptic seizure. His clinical examination was compatible with an acute hypoxic insult (involving a lack of oxygen to the brain). Through injury to the cerebral cortex, a brain-stem release phenomenon had occurred which indicated significant injury to the cortex of the brain.

The radiographic studies

[67] The possibility of traumatic injury was raised for the medical staff by the ophthalmology evaluation. Radiographic studies followed.

[68] The studies conducted from 25 July 2017 included:

- (a) Cranial ultrasound (25 July 2017).
- (b) Computerised tomography (CT) scan of head (27 July 2017).
- (c) CT scan of abdomen (29 July 2017).

- (d) Magnetic resonance imaging (MRI) scan of the brain (26 July 2017).
- (e) MRI/Magnetic resonance angiography (MRA) scan of spine (27 July 2017).
- (f) Skeletal survey (27 July 2017).

[69] Evidence was provided by the paediatric radiologist, Dr Philippa Depree, and the paediatric consultant, Dr Daniell, as to what those radiographic studies established. Their reports were reviewed by Dr Cindy Christian, a professor of paediatrics at the Perelman School of Medicine at the University of Pennsylvania.

[70] Dr Christian agreed with the statements provided by the treating physicians.

Brain injuries

[71] Carter's initial brain imaging studies showed diffuse brain swelling and widespread severe brain insult which affected virtually every part of his brain. The brain had suffered recent subarachnoid haemorrhaging and subdural haematoma at the likely track to the spinal column.

[72] Dr Depree identified, through the MRI scan, evidence of the clotting of blood which she stated is known to be associated with a traumatic brain injury.

[73] The MRI scan showed a marked loss of grey-white matter differentiation through both cerebral hemispheres, which in turn indicated diffuse severe acute hypoxic brain injury. Those, with other fluid collections, were consistent with recent haemorrhage.

[74] Dr Daniell observed no external crush injuries to Carter's skull. The radiography did not reveal any skull fractures.

[75] Carter's fontanelle had not, despite the initial clinical appearance, closed. On Dr Daniell's further assessment, the apparent hardness in that area must have been a result of bruising to the underlying brain.

[76] Carter was unable to fix visually (that is, follow an object with his eyes).

[77] Carter was seen in following months and had further radiographic studies, including a further MRI scan in October 2017. By then, Carter had severe widespread brain injury caused by necrosis (brain cell death). Much of Carter's brain tissue had undergone gliosis, which indicated that the brain cells had died.

[78] Carter was found to have suffered a life-threatening head injury which ultimately resulted in permanent severe neurological damage which interfered with his normal functions of living. He ultimately died from the complications arising from that.

Skeletal injuries

[79] The skeletal survey on 27 July 2017 established that Carter had suffered multiple bilateral rib and long-bone fractures.

[80] On that day Carter had 15 fractures which showed signs of healing. Eight were to the posterior right ribs and six to the posterior left ribs. One was a left distal tibia fracture.⁷ The paediatric radiologist, Dr Depree, described these 15 fractures as the old fractures. Dr Depree gave evidence as to the way in which a fractured bone begins to heal, with new bone formation being evident. She explained that if healing is not observed, then the fracture has occurred within the last ten days. Once healing is observed, the fracture must have occurred more than ten days earlier.

[81] The skeletal survey established that Carter had an additional 25 fractures, which showed no signs of healing, which Dr Depree described as acute. Those fractures were to:

- (a) ten anterior right ribs;
- (b) ten anterior left ribs;

⁷ The lower end of the left lower leg bone near the ankle.

- (c) right distal tibia;⁸
- (d) right distal femur;⁹
- (e) left proximal femur;¹⁰ and
- (f) right distal radius.¹¹

[82] Dr Christian reviewed the skeletal surveys and agreed with Dr Depree's conclusions. She confirmed that there were both acute and healing fractures at the time of Carter's initial hospitalisation.

The cause of Carter's head injuries

The constellation of injuries

[83] In the discussion which follows, there is some necessary focus on specific injuries. For instance, I discuss Carter's retinal haemorrhaging before I discuss his subdural and subarachnoid haemorrhaging. I similarly focus on what the medical practitioners have said in relation to the particular injuries.

[84] That said, the evidence of the medical practitioners, especially the paediatric evidence of Dr Daniell and Dr Christian, emphasised that any medical expert, in reaching their conclusion as to the cause of injuries, will consider together the full range and pattern of injuries or, as Dr Christian put it, the "constellation of injuries". As part of her overall assessment of Carter's injuries, Dr Christian concluded:¹²

I agree with the statements provided by the treating physicians who were involved in Carter's care. In this case, there is no medical disease that describes the constellation of injuries that Carter sustained, and I have no doubt that this case represents repeated child physical abuse. In fact, systematic reviews of the probability of abuse in infants with subdural hemorrhage by Maguire, et al., has shown that the probability of abuse approaches 100% in infants who present with SDH¹³ along with apnea, rib and

⁸ Lower end of the right lower leg bone near the ankle.

⁹ Lower end of right thigh bone near knee.

¹⁰ Upper end of left thigh bone near hip.

¹¹ Wrist.

¹² This judgment omits Dr Christian's reference to publications which she cites in her evidence.

¹³ "SDH" being Dr Christian's abbreviation of subdural haematoma or haemorrhage.

long bone fractures. I agree that the identified injuries do not represent birth trauma, based on their appearance and what we know about the resolution of birth injuries, including retinal haemorrhages. The characteristics of the retinal haemorrhages, both at presentation and at follow up are characteristic of acute RH at the time of the July hospitalisation, and their resolution over time. Mr Gray's history of waking on top of Carter does not explain the constellation of acute injuries he sustained. Although asphyxiation does lead to hypoxic-ischemic encephalopathy, asphyxiation does not explain the subdural, subarachnoid or retinal haemorrhages, and does not explain the pattern of fractures identified by both CT and skeletal survey at the time of Carter's initial hospitalization.

Retinal haemorrhaging

[85] As observed by Dr Elder, Carter's retinal haemorrhages were extraordinary. Dr Elder explained that their infliction would have required significant acceleration/deceleration forces. The sort of accidental trauma which might cause retinal damage of that degree included high velocity impacts, car crashes where an unrestrained child goes through a windscreen at 100 km an hour, and a child falling 3 metres onto concrete. The extent of haemorrhaging meant that Dr Elder could not see that there could be a connection between any circumstances relating to Carter's birth and what Dr Elder saw on 27 July 2017. Haemorrhages associated with birth are very few in number and most are gone within four days.

[86] For Mr Gray, Ms Elsmore suggested to Dr Elder that the retinal haemorrhaging might have resulted from a crush of Carter's skull such as by an adult lying on Carter and crushing his skull against something hard on the couch. Dr Elder rejected that possibility, observing that to get retinal haemorrhaging the crush of the skull would usually have to be sufficient to break the skull. Carter's skull was not fractured.

[87] In response to cross-examination concerning the possibility of damage to Carter's the retinas through a lack of oxygen supply, Dr Elder stated that that would not account for these retinal haemorrhages.

[88] Nor did Dr Elder accept that a combination of suffocation and crushing against a hard surface would have caused such haemorrhaging.

[89] Dr Daniell similarly stated that you would not see the retinal haemorrhages which Carter had from compression or suffocation as the only mechanism of injury.

She stated that Professor Elder's description of the haemorrhages was in keeping with all the literature about retinal haemorrhages from abusive injuries. She excluded suffocation as a cause of the haemorrhages on account of the number and amount of haemorrhages, being in all layers of the eyes.

[90] Dr Christian, having reviewed the medical evidence, stated that by every grading system the retinal haemorrhaging would be described as severe. Dr Christian emphasised the importance of making a diagnosis based on the totality of the picture but continued:

I've worked with our ophthalmologist at Children's Hospital for decades, we've published many, many papers together on retinal haemorrhages and when you have this severe retinal haemorrhages, it's too numerous to count, you can't even count all of the retinal haemorrhages in the back of the eyes, all the way up towards the periphery in multiple layers, there's almost nothing that does that other than abusive head trauma and child abuse and inflicted injury to the baby and those retinal findings are also consistent with them being new at the time that the baby came into the hospital.

[91] Dr Christian explained that Carter's retinal haemorrhaging was inconsistent with haemorrhages caused at birth for two reasons. First, because the severity and pattern was inconsistent with birth trauma and, secondly, because Carter had a follow-up about a week later, by which time the vast majority of intra-retinal haemorrhages had disappeared. Dr Christian stated that that is consistent with the medical literature on abusive head trauma.

[92] Dr Christian stated that oxygen deprivation could have contributed a little bit, but not as a major contributor, to the haemorrhaging.

Brain injury

[93] Dr Daniell and Dr Depree gave their evidence as to the cause of Carter's brain injury against the background that Carter had suffered severe, recent subdural and subarachnoid haemorrhage, and that it was a diffuse brain injury. There was no evidence in Carter's history of any other major injury such as in a car accident.

[94] Dr Daniell stated that the pattern of injuries in Carter was consistent with inflicted or abusive head trauma and was not consistent with other kinds of injuries

which medical practitioners see. The age of bleeding on the CT scan excluded the injuries from having been present from birth. Dr Daniell described the brain injury as an acceleration/deceleration injury. She explained that the blood vessels in the brain are disrupted by moving rapidly in one direction and then stopping suddenly, so that they move rapidly in the other direction, thereby tearing them. The same thing happens to the brain cells themselves with the rapid movement causing the same tearing damage. She stated that babies are more vulnerable than adults because babies do not have the neck muscles to stop their heads bobbing around. She stated that as babies have bigger heads relative to their body size, it is one of the heaviest parts of the body and therefore gets more momentum.

[95] Dr Daniell explained that experts propound two hypotheses for the events which cause inflicted head trauma of such a nature. First, the trauma may be caused by the shaking of babies, although a lot of experts feel that shaking may not be able to be violent enough to cause the degree of injury seen in Carter. Secondly, Dr Daniell stated that there is evidence that some injured babies have had impact onto soft surfaces (such as mattresses, couches or change-mats) so that they do not get skull fractures or bruising externally on their heads.

[96] Dr Daniell stated that the bleeding, the subdural and subarachnoid haemorrhages, would not have been caused by overlying, such as Mr Gray stated to have occurred.

[97] Asked to describe the acceleration/deceleration forces which would have been required, Dr Daniell stated:

I believe that it would take the kind of forces of an adult throwing with all their strength, so really slamming a baby down on a surface.

[98] She stated that the action required was not at the level of the jolting of a baby to wake them or to stop them choking but rather, "...we're talking about extreme movement".

[99] Dr Christian referred to the cause of brain injury both in terms of "acceleration/deceleration" and "rotational injury".

[100] Dr Christian explained the rotational cause of injury in this way:

And when a baby's head or an adult's head is severely rapidly rotated, you can imagine the brain inside the head is rotating but those bridging veins are – the sagittal sinus is actually stuck to the under-surface of the skull, so as the brain is moving and the skull is not moving at the same rate, those bridging veins are stretched and they sometimes tear, they pull out of the brain and they tear, and when they tear you get bleeding underneath the skull but outside of the brain and that's called subdural haemorrhage, that's where the blood lies. So when we see subdural haemorrhage, especially when it's a thin layer of subdural, kind of along the curvature of the brain and kind of layering in the back of the brain and sometimes underneath kind of, what we call the posterior fossa, that kind of pattern tells us that there has been significant rotation of the brain.

[101] Dr Christian concurred that suffocation did not explain the subdural, subarachnoid or retinal haemorrhages. As with Dr Daniell, Dr Christian emphasised the importance of considering the “constellation of injuries” when reaching her conclusions.

[102] Addressing the severity of action required to cause Carter's head injuries, Dr Christian stated:

I think anybody who saw what happened to Carter would have recognised that this was terrible violence against an infant and would have, I assume, attempted to stop it or scream or do something to break kind of what was going on, stop what was going on. Anybody would recognise this as severe violence against a baby. Again, the baby broke multiple bones over time, had severe brain injury that eventually ended his life. I mean, that's very severe.

[103] Cross examined as to whether Mr Gray's overlying of Carter could have caused his brain injuries, Dr Christian stated:

So I didn't see any evidence that he had any like bruising to his head or any kind of linear trauma or anything that his head was impacted for any length of time into something hard, there was no soft tissue swelling or anything like that.

[104] Dr Christian accepted that, if Mr Gray did overlie Carter, Carter may have also been asphyxiated. She described any such asphyxiation as secondary to the trauma Carter suffered.

Consideration of other mechanisms of injury

[105] The medical practitioners called by the Crown were examined and cross-examined as to other mechanisms of injury which might be posited as possible causes of Carter's head injuries.

[106] First, there was the explanation proffered by Mr Gray as to having overlaid Carter. That proposition was dealt with by the witnesses in the course of the evidence I have reviewed. The evidence was that asphyxia may have contributed to the injuries but to a modest degree only.

[107] A further comment made by Mr Gray as to having put his fingers down Carter's throat was responded to by Dr Christian. Dr Christian observed that those attending Carter had not observed any injury to his airway and that she did not think that such conduct would cause the subdural haemorrhaging and all the other things that were seen in Carter's brain.

Mr Gray's explanation

[108] Mr Gray has given some explanation as to the circumstances leading to his calling the ambulance. On the day itself (24 July 2017), he spoke to various people including Ms Hutton and ambulance officers. His explanations then included that:

- (a) he had fallen asleep with Carter in his arms and woke up to Carter gasping and limp; and
- (b) he had fallen asleep on the couch with Carter and had woken up lying on top of Carter, having been asleep for 10 minutes.

[109] Mr Gray was subsequently interviewed by Police on two occasions, 26 July 2017 and 27 July 2017. He there gave a more detailed explanation of what had happened after Ms Hutton left the house on 24 July.

[110] Mr Gray said from memory that Carter had been on his sheepskin on the floor when Ms Hutton left. Carter had started to grizzle so Mr Gray went to boil the jug to

start warming his milk. He then sat down on the sofa, watching television, and started feeding him. He then burped Carter by tapping his back. He then lay down with Carter quietly nuzzling in against him while Mr Gray watched television (he stated that he thought that it was a programme named “Tipping Point”). He stated that he thought that was around 1.00 pm.

[111] Mr Gray continued in the course of his first statement with what he said happened.

[112] The next thing that he remembered was waking up. He heard Carter gasp. Mr Gray picked him up and started to panic. He thinks he whacked Carter’s back a few times. He stuck his fingers down his throat. He thinks he even went through [to the kitchen] with Carter in his arms to start trying to make him another bottle. Carter was gasping and quite blue all around his lips. Mr Gray thinks he was running around between rooms. He thinks he boiled the jug and got another bottle out of the fridge. He tried to ring Ms Hutton but the phone wasn’t ringing out so he rang back through to the kitchen and got his work phone. It was then that he had the brief telephone discussion with Ms Hutton.

[113] In his second interview with the Police, Mr Gray was told that the Police had received new information about injuries inflicted upon Carter. Detective Sergeant James Simpson told Mr Gray that the medical analysis of Carter’s injuries indicated “swelling to the brain, serious bleeding behind the eyes or retinal haemorrhaging, and ... fractures”. Detective Sergeant Simpson asked Mr Gray whether he was going to tell him the truth now. Mr Gray stated:

Nothing that I have done to him has been to hurt him. I really haven’t. I don’t know what to say.

[114] Mr Gray referred again to waking up on the couch with Carter. He said he found Carter with blue lips, and gasping. Detective Sergeant Simpson put it to Mr Gray that something else had happened and that it wasn’t Megan [Hutton]. Mr Gray replied:

Mum asked if I shook him but I can’t recall shaking him. I remember whacking him and that but I can’t recall shaking him.

[115] He continued that he did not recall doing anything to hurt Carter.

[116] Detective Sergeant Simpson told Mr Gray that the doctors had said that the haemorrhaging behind Carter's eyes was a very rapid acceleration and deceleration event. The Sergeant explained that that would involve significant shaking. Mr Gray responded:

I can't remember doing it. I don't remember.

and a short time later:

I don't remember shaking him. Just a mad panic. Oh. It's all on me.

and still later:

I don't know what to say. I can't say I've shaken him when I don't recall shaking him.

and later again:

I still don't remember shaking him but everything that is said that I have so I must've. ...every, all the evidence is saying that I have so obviously I have.

Conclusion as to cause of Carter's head injuries (retinal haemorrhaging and brain injuries)

[117] I am satisfied that the evidence establishes beyond reasonable doubt that Carter Hutton on 24 July 2017 suffered very serious head injuries at his home in Christchurch. I am further satisfied, in the absence of any evidence of accidental trauma which would have been observed had it occurred, that Carter Hutton's head injuries that day were caused by Mr Gray applying very severe acceleration/deceleration forces to Carter's body either by severe shaking or by violently throwing him against a soft object. I am further satisfied that Mr Gray intended to cause really serious hurt or harm to Carter in that it must have been obvious to Mr Gray (and would have been obvious to anyone observing) that the harm which resulted was a certain or near-certain outcome of the conduct.

[118] These conclusions are the only available conclusions on the evidence adduced. The identification of a particular motivation or trigger-point for Mr Gray's conduct is

not a circumstance which needs to be established in this case. As there was some exploration of that circumstance in the evidence, however, I record also my conclusion as to the relevant circumstances. They, too, are established beyond reasonable doubt.

[119] Mr Gray, in accordance with his entitlement, did not give evidence at trial. In particular, the Court does not have evidence from Mr Gray to state that he innocently injured Carter on 24 July 2017 by shaking him in a panicked attempt to get him to breathe again. But, as Ms Bulger noted in her submissions, Mr Gray did go so far in his statements to the Police as to expressly recognise that the evidence available (on 27 July 2017) indicated that he had or likely had caused the injuries.

[120] Ms Bulger, upon this basis, invited the Court to conclude that the injuries which Carter sustained on 24 July 2017 could have happened as a result of Mr Gray shaking Carter to get him to breathe after he had suffered accidental suffocation.

[121] On the evidence, that is not a realistic possibility. The medical evidence as to the degree of violence with which any shaking or throwing must have occurred, in order to cause such severe head trauma, precludes an innocent explanation for what must have been Mr Gray's application of force. It would have been obvious to Mr Gray (as to anyone else observing) that Mr Gray through his actions was about to cause really serious harm to Carter.

[122] Mr Gray's regular weekday employment involved his working long days, leaving home at around 6.00 am, and returning home around 6.00 pm. He was then routinely attending to the evening feed of Carter at around 10.30 pm before changing him and putting him to bed. Mr Gray and Ms Hutton understandably regarded themselves as "sleep deprived" through these first few weeks of Carter's being at home.

[123] Mr Gray's state of weariness was exacerbated by a time-consuming habit of engaging on the internet in personal dating sites and pornography browsing. Mr Gray was online to some extent every day from 10 July 2017 to 24 July 2017. His interactions on the internet ("interactions" identifying each click on a website, so that some last a matter of seconds only) peaked on 24 July 2017 at 284 interactions.

[124] On the night of 23/24 July 2017, Mr Gray was on-line with some breaks from just after midnight (12.06 am) until 1.06 am. He could not have gone to sleep until after 1.06 am.

[125] Mr Gray was then again online from soon after Ms Hutton went out for lunch, going online at 12.53 pm until 12.54 pm, and then again going online between 1.34 pm and 1.48 pm.

[126] Mr Gray's online activity that day makes it clear beyond doubt that Mr Gray would have been affected by tiredness and would not have been solely focused on child-minding.

[127] Evidence was given as to the television show "Tipping Point" not being shown on 24 July 2017 until 2.00 pm. One inference was that Mr Gray may not have been watching that programme from 1.00 pm as he suggested (although Ms Bulger raised the possibilities through cross-examination that Mr Gray may have been watching a recorded programme or that Mr Gray may have made a mistake as to the time he began watching the programme). What is known is that in this period between 1.00 pm and 2.00 pm, there were at least 12 minutes when Mr Gray was in fact engaged online. That said, I do not need to reach a conclusion as to whether Mr Gray lied when he indicated that he had been watching television from 1.00 pm. His activities online before and after 1.00 pm were of a nature which could reasonably indicate that any possible lying was not to cover up any criminal conduct but rather to cover up the embarrassing fact and content of his online activities.

The cause of Carter's skeletal fractures

Overview as to the nature of the fractures

[128] Dr Depree described Carter's skeletal fractures by reference to a number of images and diagrams as follows:

There are a total of 40 fractures, and by fractures I mean broken bones, seen on these studies, which I will list and describe below. So firstly, number 8, the ribs. In total there are 34 rib fractures, 18 of these involving the right sided of ribs and 16 involving the left sided of ribs. I'm going to summarise the findings under the ribs. Starting with the right sided ribs, firstly I should note

that all of us have 12 ribs on each side. So we have 24 ribs. On the right ribs there were 18 fractures involving 10 ribs. Eight of those fractures were posterior, which is at the back of the ribs near where the ribs join into the spine and 10 of those fractures were at the front of the ribs, where the rib ends in the front. The left sided ribs, there were 16 total fractures involving 10 ribs. Again a similar pattern. Six of these were at the ribs at the back near the spine and 10 of these fractures were in the front of the ribs, at the front end of the ribs, I should say. Moving on to number 9, there was a fracture of the right distal tibia. This is the lower end of the right leg bone near the ankle. These are in a place called the metaphysis, so this is what we call a metaphyseal fracture, which basically means the end of the bone. Number 10 was a similar fracture on the left side. So the left distal tibia. By that I mean the lower end of the lower leg bone near the ankle. There was a metaphyseal fracture or a fracture of the end of that bone and that fracture had evidence of healing. Number 11, a fracture of the left proximal femur and by this I mean the upper end of the left thigh bone near the hip joint, also a metaphyseal fracture, a fracture of the end of this bone. Number 12 was a fracture of the right distal femur. So that was the lower end of the right thigh bone near the knee joint, also a metaphyseal or end of bone fracture. Number 13 was a fracture of the right distal radius, which is one of the bones in the forearm at the end near the wrist joint, also a metaphyseal or end of bone fracture. Number 14 was the right proximal tibia fracture, which is the upper end of the right lower leg bone near the knee joint, also an end of bone fracture. Out of the 40 skeletal fractures that I've described, 15 of them showed signs of healing on the initial imaging studies. These include eight of the right rib fractures, six of the left rib fractures and the left distal tibia fracture. Signs of healing are not usually seen on an imaging study until around 10 days after an injury has occurred and I have put a reference there that we use for this data. Therefore, the 15 fractures that I have described that show signs of healing had likely occurred at least 10 days prior to his hospital presentation when we first imaged him. Number 17, the remaining 25 fractures are unable to be aged. They may have occurred at the same time or at different times to the healing fractures. Number 18, rib fractures and in particular those fractures that I described on both sides that are at the back of the ribs near the spine are highly specific for injuries that have been inflicted. Number 19, the six fractures of the legs and the one fracture of the right wrist. As I mentioned before, they are all part of the bone which is called the metaphysis and that is the end of the bone and these are known as metaphyseal fractures. Another name that we have for these in paediatric medicine and radiology is classic metaphyseal lesions. The metaphysis, as I said, is the end of the long bone and this is the site where the bone grows from. We know that injuries to this part of the bone in children are rarely seen in accidental trauma and again, as with the posterior rib fractures, they are highly specific to injuries that have been inflicted.

[129] I accept this passage of evidence in its entirety. It explains the number and nature of fractures sustained by Carter.

Cause of Carter's metaphyseal fractures

[130] It was thus Dr Depree's evidence that the posterior rib (metaphyseal) fractures are highly specific to injuries which have been inflicted. That was explained in the evidence of the medical practitioners as to how such injuries occur.

[131] Dr Daniell explained the mechanism of injury:

- A. So, the, particularly the posterior rib fractures, just down the side of his spine at the back, the experts think, are consistent with squeezing the chest, encircling it with adult hands all the way around impressing, because the point at which the ribs are broken, where the circle of the ribs would have extra pressure from the bones of the spine, sticking out on the sides, so, what we call transverse processes of the spine, making an extra pressure point there, although squeezing the ribs all around can cause fractures at any point around the circle of the ribcage.
- Q. Do you have an opinion on what degree of pressure would need to be applied for the ribs to break in the way that they did?
- A. We believe that a lot of pressure is required, babies don't break their ribs very often, accidentally, in fact it's extremely rare for any mechanism of trauma like car accidents and things to cause rib fractures in little babies, babies are often grabbed around the chest and held and sometimes when they're slippery you hold them quite hard and those kind of normal actions never cause rib fractures, it must take a lot of pressure to cause a rib fracture, because their ribs are more, they're more flexible.
- Q. Do you see rib fractures of the kind, the number, in your clinic very often?
- A. No, we don't see it outside of the setting of inflicted injury.
- Q. Carter suffered a fracture to the top of his femur; do you have a view as to how that might have been caused?
- A. So, that was a metaphyseal fracture, so a fracture through the growing end of the top of the long bone of the thigh, those fractures are caused by pulling or twisting or both in combination, some people, they can also be caused by acceleration, deceleration, they're unusual to see at the top of the thigh bone, and that bone is quite well supported in the socket of the pelvis, so, it's hard to see that an acceleration, deceleration injury would be possible, particularly at the top of that bone and it's more likely that that was caused by a pulling or twisting force.
- Q. What sort of degree of force would you have to pull or twist a baby's leg to break the top of that bone?

- A. It would have to be a lot of force, babies, you know, they actually cope with a lot more handling than most people think, and their legs are never broken when you pull their legs apart to change their nappies, it would have to be a lot of force to actually break it.
- Q. There are fractures in the knee, at the end of femur and at the other end of the knee and at the ankle, on both ankles, what's the possible cause of those fractures?
- A. So, those are all the same kind of fractures, they're what we call, "classic metaphyseal fractures," they are very rare outside of the setting of child abuse and they're all thought to be caused, probably most likely, by pulling and twisting injuries to those bones, around those joints, or possibly to be caused by acceleration, deceleration injuries where the bone is moving faster in one direction than the other direction, causing a shearing force to make the layers of the bone come apart.
- ...
- Q. And what about the wrist fracture?
- ...
- A. It's the same kind of fracture in the bone, in the arm bone at the top of his wrist.
- Q. So again –
- A. And again it's through the growth plate, so pulling, twisting or potentially shaking fast enough backwards and forwards to cause the growth plate to shear off the end of the bone.
- Q. If a bystander was watching somebody handle a baby in such a way as to cause the fractures we see, would they notice that the contact was inappropriate?
- A. Yes they would've known it was really wrong, they would've known that the baby was going to be hurt by what was being done to it.
- A. ...the baby must have been shaken so violently to build up such the speed, that the limbs were whiplashing backwards and forwards so hard that the bone's just broken through the growing plate on the ends of them.
- A. ... you don't usually see bruising with these kind of fractures.

[132] Dr Christian also provided detailed evidence as to the rib fractures. The children's hospital at which she works has more than 600 paediatric beds and is situated in the fifth largest city in the United States. Dr Christian has seen thousands of cases of child abuse and a lot of children who have had multiple fractures from abuse and other mechanisms. She stated that on occasion the doctors in her hospital

see children who have a single rib fracture which might be unexplained but they do not routinely see rib fractures in young infants who are not ambulatory. She stated that rib fractures are remarkably uncommon and to have as many rib fractures as Carter had is extraordinarily uncommon.

[133] She agreed with the conclusion that Carter's ribs had been broken through severe squeezing:

Q. So the opinion has been expressed that these fractures could have been consistent with squeezing the chest and the body of Carter, do you share that view?

A. I do. They're really very classic injuries for severe chest squeezing because if you hold a baby around your arms, you have your thumbs on the front of the baby if the baby's facing you and your fingers on the back of the baby and if you're holding a baby around, you're violent with the baby, you're squeezing the chest and I don't know if the radiologist showed but like right at the junction where the vertebrae or the backbone meets the back part of the rib, those ribs get kind of levered over the little transverse or side processes of the backbone and they snap and when we see multiple rib fractures down the spine like we see in Carter, we know that there's been severe violent squeezing of the chest and that is the most common way that infants sustain rib fractures. They could get rib fractures from blunt impact, from a punch or a direct blow but when you see this classic kind of all the way down the vertebrae, multiple fractures, you know that it was a severe squeezing.

[134] Dr Christian added that it was not surprising that no finger marks or bruising were observed on Carter's body. She explained that by reason of the fact that the pressure involved is "an indirect kind of squeezing of the bones". As a result, doctors do not see bruising on a child's back even when children have acute or new rib fractures.

[135] Dr Christian agreed with Dr Daniell's evidence that the fracture to the top of Carter's (left) femur could have been caused by a pulling or twisting force. She described that fracture as unusual because the hip isn't usually flailing or shaking in the same way as other areas. Dr Daniell compared the hip area to "the classic metaphyseal lesions like [Carter] has, clearly in his tibiae or on his knee" which are "from like flailing of limbs during severe shaking for example". Such injuries Dr Christian described as being often seen in children who have other evidence of shaking

and abusive head trauma, including subdural haemorrhages, retinal haemorrhages and other manifestations of abusive head trauma.

[136] Bringing that evidence together, Dr Christian continued:

I think that Carter was held around his chest and on multiple occasions, not only once. I believe he was violently shaken in this case and I think his limbs were kind of flailing and jerking and it's those injuries at the ends of the bones, those classic metaphyseal lesions that I'm sure the radiologist discussed, are – the kind of pathology of them is like a shearing, okay, right at the junction where the bone meets the cartilage, right at the growing centres of the bone. They're kind of like – I hope you can see this – like, shear, like shear, like this. So it's not that somebody karate chops it, it's that one portion of that bone moves one way and the other portion is yanked in another direction, you could do that by simply yanking on a bone but you can also do that if you're violently shaking a baby, their head is being shaken, veins inside of the skull are tearing, that leads to the subdural haemorrhages, there is traction on the eyes and there's retinal haemorrhages that develop, there are rib fractures that have developed and there have been fractures at the ends of the long bones that have developed. It's all consistent with what we see in shaken baby syndrome or what I call abusive head trauma.

[137] Dr Christian continued:

... so it's incredibly classic; subdural haemorrhage, terrible global brain injury, severe retinal haemorrhages, multiple rib fractures, classic metaphyseal lesions or fractures as well, absolutely classic.

Cause of Carter's non-metaphyseal fractures

[138] Two of Carter's rib fractures (both to posterior ribs) were not metaphyseal but were further out to the side of the ribs.

[139] Dr Daniell stated that if Mr Gray had hit Carter on the back very hard, he could have caused such a rib fracture out to the side, not close into the spine. Dr Daniell said that a slap on the back could not cause fractures to the anterior ribs.

[140] However, Dr Daniell noted that the two posterior fractures under discussion were both healing and thus had been sustained more than ten days earlier, (that is, by 14 July 2017).

[141] She and Dr Christian both gave evidence that the healing fractures had occurred at a separate (earlier) time to the injuries sustained on 24 July 2017.

Carter's crying and upset around 17 July 2017

[142] Ms Hutton's evidence was that Carter on occasions would be grizzly, that he did not seem to like being changed and that he would cry when being changed. After that he would settle and be "absolutely fine".

[143] Both the GP (on 17 July 2017) and the midwife (on 18 July 2017) gave evidence of reports from Ms Hutton of Carter's often being upset (in the GP's evidence for 20 to 30 minutes at a time), really fractious and crying "all morning".

[144] Dr Daniell was referred to that evidence. She stated that Carter's rib fractures would have been very sore. She suspected that he would have been very uncomfortable when anyone picked him up and moved him. Dr Daniell stated, however, that the overlap of the amount of crying that Carter might have done had he not been injured and the amount of crying he did with injuries would not have been possible for anyone to judge. She explained that that is the reason medical practitioners do skeletal surveys in children of this age where the fractures do not always have specific symptoms.

[145] The evidence of Carter's crying for lengthy periods around 17/18 July 2017 is, accordingly, while consistent with the infliction of fractures around that time, not strongly indicative of fractures as the cause of crying. I put that particular evidence to one side.

Undetected crying

[146] Ms Bulger in cross-examination of Dr Daniell explored the likelihood that, were Carter to have been hurt while Ms Hutton was in the house, Ms Hutton would have heard Carter crying. Dr Daniell agreed that it would have been painful for Carter if his bones were broken. He would have been crying. However, in answer to a question as to whether Dr Daniell believes that a mother can tell what a baby's cry

means, Dr Daniell stated that it would not necessarily be that anyone would have been able to tell the difference between a painful cry, a hungry cry or a normal cry.

[147] On the evidence, I am satisfied that it is explicable that Ms Hutton would not have been alerted on the occasion or occasions that Carter's historic fractures were inflicted. That is explicable by reason both of the possibility she would have been sound asleep at the time or that any crying she heard would not have been distinguishable from "normal crying".

Consideration of other mechanisms of injury

[148] As in relation to Carter's head injuries, the medical practitioners called by the Crown were examined and cross-examined as to other mechanisms of injury which might be posited as potentially involved in Carter's fractures.

[149] Again, there was the explanation proffered by Mr Gray as to having overlaid Carter while sleeping on 24 July 2017. On the medical evidence, such activity could not have caused any of the posterior rib fractures or the left ankle fracture, all of which at least ten days old at the date of Carter's admission to hospital.

[150] Mr Gray's self-reported conduct of "whacking" or "slapping" Carter's back on 24 July 2017 is equally incapable of explaining the healing fractures which were at least ten days old. That conduct also could not explain the healing injury to the left ankle.

[151] On Dr Daniell's evidence, the administration of CPR is also excluded as a cause of the posterior rib fractures. Dr Daniell stated that babies occasionally (between 0 per cent and 2 per cent of cases) sustain rib fractures during CPR but, when fractures are sustained, they are anterior. Dr Daniell stated that while CPR may have caused some of the anterior rib fractures, it would not have caused all of them.

Osteogenesis imperfecta (OI)/brittle bone disease

[152] Osteogenesis imperfecta (OI), also known as brittle bone disease, refers to a group of genetic disorders characterised by fragile bones which break easily.

[153] No expert evidence was called in this case in support of a proposition that Carter suffered OI. Ms Bulger in her closing submissions, responsibly, did not address any submission to the possibility that Carter may have suffered from OI or that OI was a possible explanation for the constellation of injuries he suffered.

[154] As relevant witnesses for the Crown were cross-examined as to the possibility of OI, I will briefly record their evidence and my conclusions in that regard.

[155] Ms Bulger cross-examined Dr Depree in relation to her radiology evidence. Ms Bulger suggested that there is a possibility that Carter had fragile bones, for which the only test would be genetic testing. By “fragile bones” Ms Bulger confirmed that she meant bones which have something wrong with them which would make them more susceptible to fractures.

[156] Dr Depree explained that there are many skeletal abnormalities and dysplasia which can be seen on X-ray and which would cause a person to be more susceptible to having fractures. Dr Depree stated that she did not see any evidence of those in Carter. She stated that in collaboration with her clinical colleagues with the history, examination, findings and blood testing, the material was all put together as a team and the team’s conclusion was that they did not think that there was any evidence of a fragile bone abnormality in Carter. Dr Depree confirmed that from a radiology point of view, there was nothing in Carter’s imaging to lead her to believe that Carter had abnormal bones. She would have expected that, if it existed, any abnormality would have been visible, in a case where a child had 40 fractures caused by a bone disorder. When Ms Bulger suggested to Dr Depree that Carter could have had a fragile bone condition which could be established only by genetic testing, Dr Depree said that she would defer to her clinical paediatric colleagues for their expertise in that regard.

[157] Ms Bulger cross-examined Dr Daniell as to whether she had made enquiries into Carter’s medical history, as to whether his bones might have had any inherent vulnerability. Dr Daniell stated that blood tests on Carter had shown normal levels of calcium, phosphate, and vitamin D, so that there was no suggestion of a bone disease. She referred to Dr Depree’s conclusions as to the normality of Carter’s X-rays. Dr Daniell stated that Carter had slightly elevated alkaline phosphates when admitted but

they were lower within a couple of weeks, leading Dr Daniell to conclude that the levels were in keeping with the fractures Carter had suffered, with no sign of bone disease. Dr Daniell also took into account the fact that Carter did not suffer any more fractures for the further year that he lived.

[158] In cross-examination, Ms Bulger suggested to Dr Daniell that to establish any kind of fragile bone condition, she would have needed to go further with her testing. Dr Daniell replied:

So Carter didn't have any of the clinical features of fragile bone kind of conditions either. So he had no radiological and no clinical features of it. The kind of fractures he had are very specific to child abuse, they're not the kind of fractures that a baby with osteogenesis imperfecta presents with, so there was no suggestion at all that there were any features related to those diseases and the association with the head injury and the bleeding and the retinal haemorrhages would not have been explained by a bone disease.

[159] When pressed by Ms Bulger as to the absence of genetic testing, Dr Daniell explained again that these were not the kind of fractures that are seen in OI. Dr Daniell stated that babies with OI break in the middle of their long bones, not metaphyseal fractures and not rib fractures. She added that that was not always the case but that metaphyseal fractures would be extremely unusual for OI.

[160] Ms Bulger also cross-examined Dr Christian as to the possibility of Carter having suffered from OI. Ms Bulger suggested that Dr Christian had rejected the presence of OI because there was no physical manifestation of it in the imaging. Dr Christian replied:

I think there are a number of reasons (1) because of the pattern of fracture that we see, the location of the fractures that we see and the appearance of the bones otherwise in a baby who has this many fractures and all the other injuries as well. So again, our responsibility is to look at the entire picture. So as I've said, I've seen many children with osteogenesis imperfecta, I've made the diagnosis on a number of occasions but not in this scenario, not when I look at the totality of the picture.

[161] Dr Christian further explained that there was no documentary evidence or appearance that Carter had any of the manifestations of OI. Dr Christian emphasised that it was her responsibility to look at the totality of the injuries in Carter's case and to come up with the right diagnosis. She stated that she would not expect to have this

many fractures if OI existed in a mild form which had not manifested itself (on imaging).

Conclusion as to cause of Carter's fractures

[162] I am satisfied that the evidence establishes beyond reasonable doubt that on at least one occasion before 24 July 2017 Carter Hutton suffered very serious injuries in the form of multiple rib fractures at his home in Christchurch. I am further satisfied, in the absence of any evidence of accidental trauma which would have been observed had it occurred, that all the fractures to Carter's posterior ribs were caused by Mr Gray severely squeezing Carter's chest after encircling it with his hands. I am also satisfied that the injury to Carter's left ankle was caused by Mr Gray applying very severe acceleration/deceleration forces to Carter's body either by severe shaking or by violently throwing him against a soft object. I am further satisfied that Mr Gray, in inflicting these injuries, intended to cause really serious harm or harm to Carter in that it must have been obvious to him (and would have been obvious to anyone observing) that the harm which resulted was a certain or near-certain outcome of the conduct.

[163] In concluding that it was Mr Gray who caused the injuries, I have had regard to the fact that the only people left in charge of Carter during this period were Mr Gray and Ms Hutton. There is no evidence to suggest that Ms Hutton at any point behaved inappropriately towards Carter. To the contrary, the evidence is that when Ms Hutton observed on Carter signs of something which might be wrong (both in relation to what proved to be his infection and in relation to the marks around his eyes, which both the midwife and the GP considered to be benign) Ms Hutton had immediately raised them with the appropriate people for consideration. On the other hand, there falls to be taken into account Mr Gray's conduct on 24 July 2017, which I have found to be established beyond reasonable doubt. It is strong evidence of a propensity, when alone with Carter, to lose control in a very violent fashion and to cause severe injury to Carter through the application of severe acceleration/deceleration forces.

[164] As with the head injuries caused to Carter on 24 July 2017, it is clear that in the period leading to 17 July 2017 (10 days before Carter's skeletal survey) Mr Gray would have been, (as he later was on 24 July 2017) affected by tiredness. Whereas his

online interactions on 24 July 2017 numbered 284, they averaged on the five days between 13 and 18 July 2017, 199 interactions per day. These matters do not contribute to my conclusion that it was Mr Gray who inflicted the historic fractures. At most they may provide some explanation for the circumstances in which the injuries were inflicted.

Outcome

[165] The Crown has proved both Charges 1 and 2.

Result

[166] On this basis, I have today found Mr Gray guilty of each charge and convicted him of those charges.¹⁴

Osborne J

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¹⁴ *R v Gray (Verdict)* [2019] NZHC 942.