

(TFCC) right.¹ WellNZ is the insurer for Auckland Meat Processors Limited (“AMP”). The Corporation takes a neutral position and does not wish to provide submissions or be heard in this appeal.

Background

[2] Mr Toa’fa was born in 1955. In 1986, he began working at AMP as a labourer and later became a butcher/slaughterman, working on average 60 hours a week.

[3] On 26 June 2020, Mr Toa’fa was working with large mutton carcasses. He was transferring the stomach/intestines from a carcass onto an adjacent conveyer belt when the organs started to slip from his grasp. He grabbed at them awkwardly to avoid dropping them, and wrenched his right wrist backwards in the process. He experienced immediate and intense pain in his wrist. He tried to continue working, but could not continue at full pace and was allocated light duties.

[4] On 22 July 2020, Mr Toa’fa presented to Dr William Kim, GP, who filed a claim seeking cover for sprain of Mr Toa’fa’s right wrist ligament as a result of “handling and cutting off mutton” at his work.

[5] Later, on 22 July 2020, Mr Toa’fa presented to Ms Teri Mitchell, Counties Hand Clinic. She noted:

26/6/20 handling and cutting mutton, noted pain and weakness in right hand
Difficulty holding knife properly
At night felt tingling forearm, radiating into right shoulder
Wakes with numbness whole arm
No previous right hand or arm injuries
Pain on ulnar wrist pronation²
Provisional diagnosis tendinitis
Suggests Ultra-Sound

¹ The TFCC is a fibrous structure of the wrist which supports the joints between the end of the forearm bones and helps connect the forearm with the small bones in the little finger side of the wrist.

² Pronation involves rotation of the hand and forearm towards the body so that the palm then faces downwards; supination involves rotation of the hand and forearm towards the body so that the palm then faces upwards.

[6] On 23 July 2020, Mr Toa'fa presented to Dr Sahar Bahnam, GP, who filed a duplicate claim, seeking cover for a sprain of the right wrist ligament and sprain of the hand/right wrist tendon resulting from "removing stuff from motton [sic]" on 26 June 2020. The duplicate claims were investigated by WellNZ as one claim.

[7] On 6 August 2020, Mr Tau Fa'aletatau of WellNZ recommended cover for Mr Toa'fa's injury (sprain wrist ligament right, sprain tendon wrist or hand right). This recommendation was made on the basis that there was evidence of a specific accident and a clear link with the injury, and that there was a plausible injury caused by the accident mechanism which met the criteria for a work injury.

[8] On 31 August 2020, Ms Anna Richie, Occupational Health Physiotherapist, provided a workplace assessment report in relation to Mr Toa'fa's work with AMP. Ms Richie advised that the assessment was performed onsite with Mr Toa'fa on 31 August 2020, between 10 am and 11.15 am. Ms Richie noted that Mr Toa'fa's workday was 6.00 am to variable finish time, depending on stock numbers, with regular breaks. The chain of work normally processed around 100 animals every 15 minutes. Mr Toa'fa rotated between the following five tasks every 15 minutes:

Ring out - Joe uses a hook in his left hand to hold the rump, whilst using the knife in the right hand to cut around the anus. This task requires a full range of wrist movement as he manipulates the knife around the animal ...

Open out - Joe cuts open the abdominal cavity. He reaches into the cavity to pull the ring or anus out, and discard this ...

Gut – Joe does not use a knife in this task – using both hands, he reaches into the abdominal cavity to remove the stomach and intestines (or runners). This is a heavy job with the contents weighing up to 30kg, as well as slippery and awkward. On removing the intestines from the abdominal cavity, he turns and places them in containers on the conveyor belt behind him. He then separates the liver from the other organs. This requires a strong grasp to support the liver, whilst using the weight of the stomach to separate them. ...

Brisket – on this station Joe uses the brisket cutter or scissors to cut the animals sternum. He grips the scissors, the weight of which is supported by a cord. He grips the scissors with both hands using two buttons to operate them. He notes that there is a reasonable amount of leverage when using the brisket cutter. ...

Pluck – Joe cuts a v-shape through the diaphragm to allow removal of the lungs and heart with the left hand. He inserts the knife into the lung cavity to cut the oesophagus to allow removal of the lungs.

[9] Ms Richie noted that Mr Toa'fa's symptoms had improved significantly, but he was still aware of wrist pain, particularly with ulna/radial deviation and pronation/supination. He had had his medical certificate extended for a further two weeks of light duties.

[10] On 9 September 2020, Dr John Monigatti, Occupational Physician, assessed that Mr Toa'fa's injury was a one-off event, caused by the awkward grabbing of the heavy organs on 26 June 2020. Dr Monigatti noted that the event had occurred "during a fortnight when the mutton chain was processing larger sheep than usual". Dr Monigatti said there was:

... an event involving the application of excessive and unexpected force to the right hand that in my opinion was a plausible cause of overstretching or tearing of the extensor carpi ulnaris muscle or tendon (i.e. an acute strain). There was a close association between this episode and the onset of symptoms, subsequently diagnosed as a strain/sprain by two medical practitioners and a hand therapist.

[Mr Toa'fa had] ulna-positive variance, in which the ulna is longer than the radius at the wrist. Abutment of the ulnar head on the carpal bones causes excessive load-bearing across that portion of the wrist, which is known as ulnocarpal impaction and results in accelerated wear. Ulnocarpal impaction is often associated with tearing of the triangular fibrocartilage (TFC) a soft tissue structure that covers the distal ulnar and helps stabilise the wrist and transmit the load across the wrist joint. Because of this anatomic complexity and the forces to which it is subjected, the TFC is at risk for both direct injury and degenerative damage.

Traumatic tears of the TFC occur acutely when there is enough force through the ulnar side of the hyper-extended wrist to overcome the tensile strength of the cartilage. This usually happens when the wrist is pronated (palm down) position, the most common cause being a fall onto the outstretched hand. Forcibly twisting the wrist can also disrupt the TFC such as when the bit of a power drill binds and wrist rotates instead. Another cause is forced ulnar deviance caused by for example swinging a bat. The vast majority of TFC tears are degenerative, however, can be caused by gradual wearing away of the cartilage separating the distal end of the ulna from the carpal bone.

It is possible that Mr Toa'fa's symptoms are attributable at least in part to a TFC tear. MRI imaging is the investigation of choice should you wish to investigate it further ... if he has a tear ... I would consider the wrench to the right wrist in June a plausible cause.

[11] On 23 September 2020, an ultrasound and x-ray were carried out on Mr Tos'fa's right wrist. Dr Quentin Reeves, Radiologist, reported:

X-ray:

Mild positive ulnar variance.³

Equivocal changes of ulnocarpal impaction.

Mild changes of osteoarthritis of the distal radioulnar joint. Otherwise the examination is unremarkable.

Ultrasound:

No evidence of ECU tenosynovitis or abnormal vascularity. In view of the lack of findings, a steroid injection was not performed.

The plain film does show some mild changes of osteoarthritis of the distal radioulnar joint.

[12] On 6 October 2020, Dr Monigatti advised that, in light of the imaging, Mr Toa'fa's wrist pain was stemming from joint inflammation, caused by the osteoarthrosis of the distal radioulnar joint together with a large effusion.

[13] On 31 October 2020, an MRI was carried out on Mr Toa'fa's right wrist. Dr Andrew Clarke, Radiologist, reported:

... There is complete loss of articular cartilage involving the distal ulnar adjacent to the lunate where articular cartilage is lost over the lunate also. ... The findings are consistent with ulnocarpal abutment. There is a large tear/perforation in the TFCC articular disc ...

Possible features of longstanding ulnolunate impingement with prominent lunate and distal ulnar articular cartilage loss, DRUJ joint effusion with possible interosseous ganglion.

Large radial sided ganglion, possible scapholunate ligament origin but no evidence of scapholunate pathology.

Fluid and high signal are seen involving the ulnar aspect of the carpal tunnel.

[14] On 5 November 2020, Dr Monigatti further reported:

Mr Toafa has clear evidence of long-standing abutment and a large central perforation of the triangular fibrocartilage complex, which together with osteoarthritis of the distal radioulnar joint is likely to be responsible for his pain and incapacity. In the absence of symptoms or signs on the radial side of the wrist, and with no evidence of scapholunate pathology I would regard the radial-sided ganglion as an incidental and subclinical finding. As advised previously, the vast majority of triangular fibrocartilage tears of this type are caused by cumulative wear and tear accelerated by ulna-positive variance causing abutment on the lunate.

³ Positive ulnar variance indicates a longer ulna (the bone on the little-finger side of the forearm) compared to the radius (the bone on the thumb side of the forearm), and may result in wrist pain.

In my opinion, the association [between the incident described and the current condition] is likely to be one of aggravation by the work process rather than causation.

To my knowledge, there is no property or characteristic causative of ulnocarpal abutment or central perforations of the triangular fibrocartilage disc in the employment tasks of a butcher/slaughterman. An [sic] morphological anomaly is responsible, irrespective of the person's occupation, but those doing manual work are more likely to experience symptoms.

There is no evidence in the literature from which to conclude that there is a significantly increased risk of triangular fibrocartilage disc perforations or distal radioulnar joint osteoarthritis in any particular group occupational or otherwise, except those having ulnapositive variance.

[15] On 18 November 2020, WellNZ declined Mr Toa'fa's claim for cover a work-related gradual process injury. Well NZ noted that Dr Monigatti had confirmed that there was no physical injury and a reported diagnosis of "long-standing ulnocarpal abutment and a large central perforation of the triangular fibrocartilage complex right". Dr Monigatti's opinion was that "the association is likely to be one of aggravation by the work process rather than causation".

[16] On 16 February 2021, Mr Toa'fa applied for a review of WellNZ's decision. He submitted that the evidence established that the claimed injury was a work-related gradual process injury.

[17] On 24 March 2021, an x-ray was done of Mr Toa'fa's right wrist. Dr David Dow, Radiologist, reported:

Comparison is made with the right wrist radiographs dated 16 Sep 2020. 4 mm of ulnar positive variance. Early osteoarthritis of the DRUJ. DRUJ alignment is maintained. Early STT and first CMC joint osteoarthrosis. No fracture or destructive osseous focus.

[18] On 16 April 2021, Mr Toa'fa presented to Dr Chris Walls, Occupational Physician. Dr Walls advised:

With respect to Joe's right wrist TFCC tear and degenerative change you have asked whether I have considered the 35 years as a meat process worker has had a more than trivial influence on the development of this condition.

I would consider that the pathological sequence is of excess wear to the TFCC leading to its failure and then the development of ulnar impaction/wrist osteoarthritis.

I note the prolonged work exposure to extreme functional demands, of very highly repetitive forceful wrist work involving repeated (constant) non-neutral wrist postures coupled with force.

I am of the opinion that the force required would fall into the definition of “Heavy Work”.

I am further of the opinion that these factors will have played some significant (well in excess of trivial) contribution to the “degenerative” changes in both wrists, particularly the Right.

[19] On 8 June 2021, Dr Walls provided a supplementary report and advised:

,In my view, the evidence is sufficient to established (on balance) that people performing these work tasks at the intensity Mr Toa’fa has for as long as he has would be at a significantly greater risk of suffering TFCC tears, and that his ulnar variance which has led to his TFCC tear, is a consequence, at least to a significant degree of these work activities, that is his ulnar variance is not solely a constitutional factor but has developed as a consequence of work factors. ...

Mr Toa’fa has had extreme exposure over many years ... To simply dismiss his wrist pathology as the result of constitutional factors is superficial, in my opinion there is a sufficient exposure and sufficient medical knowledge to accept that his occupation has contributed significantly to this wrist pathology.

[20] On 29 June 2021, Dr Monigatti reported that forceful gripping combined with wrist turning against resistance could cause dynamic ulna positive and ulna negative variance, but x-rays showed bilateral positive ulna variance that could only be aggravated by such activity. Dr Monigatti thought that gripping with the wrist in full pronation with either hand did not appear to be a characteristic of his employment tasks:

The main causes of ulnar positive variance are genetics and ageing. But, wrist postures can increase or reduce it. Forceful gripping combined with pronation (turning inwards) against resistance lengthen the ulna relative to the radius, known as dynamic ulna positive variance, increasing the load on the carpal bones Conversely, strong gripping and resisted supination (turning outward) causes shortening of the ulna. Joe’s work tasks involved more wrist supination than pronation, so any dynamic ulnar variance in his work tasks would unload the ulnocarpal bones at least as much as it would load them, with no net aggravating effect.

The risk of developing wrist osteoarthritis would be significantly increased for butchers who have positive ulnar variance, than for those having neutral or negative variance (ulnar shorter than radius). An employment tasks [sic] that requires a lot of dynamic ulna-positive variance might accelerate the osteoarthritis in someone with anatomical ulna-positive variance, but it cannot be said to have caused either that condition of the ulnocarpal impaction that results. Moreover, Mr Toa’fa’s knife hand activity appears to involve more supination as pronation and I note that in his description of the work tasks Dr

Walls did not mention any pronation, just supination. So, any dynamic ulnar variance inherent in Mr Toa'fa's employment tasks would unload the ulnocarpal bones at least as much as it would load them, with no net aggravating effect.

Whilst it is never correct to deduce from the absence of evidence that there is no increase in risk, nor is it appropriate to presume that increased risk would have been shown but for insufficient study. Dr Walls' position is that in the absence of such evidence, increased risk to the occupational group can be inferred from the presence of causative factors in the workplace – i.e. claim that because the first step [under section 30(2) of the Act] is met, the third one will be met also. Dr Walls considered the first step met in Mr Toafa's case because the work is heavy, he had been doing it for a long time, and "I can see no reason why this (wrist) joint, one of the more flexible joints in the body that constantly transmits force at unusual angles, would be spared wear and tear in excess of that imposed in, say, in a clerical worker." Dr Walls furnished no evidence that this actually causes osteoarthritis of the wrist, he just speculated that it would and cited the 1997 NIOSH study about occupational characters causing the different hand/wrist tendonitis in support".

[21] On 13 July 2021, a further report was obtained from Dr Walls:

1. Both Dr Monigatti and I are at a disadvantage of not having viewed the tasks in person, nevertheless this was a compelling history or unceasing hand/wrist activity.
2. This was a job requiring highly repetitive hand/wrist activity undertaken at some pacing, I can not see that the tasks spared the wrist from pronation nor that supination was more prevalent than pronation.
3. Based on my past observations of meat processing chain work. I would expect the work tasks to involve all planes of wrist movement.
4. The point (again) about Mr Toa'fa's exposure is that it is extreme.
5. Joe Toa'fa seems to more than adequately demonstrate the "healthy worker" effect (people with problems drop out of that work) but has eventually run out of tissue resilience and repair. ...
 - a. Both Dr Monigatti and I accept there is limited (or no) evidence of the injurious consequences of working for 30 plus years in the New Zealand meat processing industry.
 - i. Similarly there is little information from overseas meat processing industries concerning this problem.
 - ii. I can not agree that lack of publication means there is no association. As someone with an interest in and having been part of more than 50 publications of medical research or informed medical comment since 1984 I can assure any reader that such topics as this do not acquire funding.

...

- d. The most relevant comparison I could find in the literature was the oyster shucking paper quoted in my earlier report.
- i. I accept the limitations of this (and most publications with respect to occupational exposures).
 - ii. Nevertheless this occupation involved similar exposures, that is of force (effort), repetition and non neutral wrist postures.
- e. Referring to results from analagous exposures is an accepted application of the Bradford Hill criteria to discussions around causation and part of the balancing of information required when considering such questions.

[22] On 2 August 2021, review proceedings were held. On 30 August 2021, the Reviewer dismissed the review, on the basis that Mr Toa'fa had failed to meet the statutory test for a work-related gradual process injury to be established. The Reviewer found that Mr Toa'fa performed an employment task or worked in an employment environment that had a particular property or characteristic. However, the Reviewer found (preferring Dr Monigatti's evidence) that the work characteristic did not cause or contribute to Mr Toa'fa's personal injury, and that there was no clear evidence of increased prevalence of TFCC tears amongst butchers. The Reviewer found that the evidence suggested more strongly that Mr Toa'fa was suffering from an underlying positive ulnar variance which had caused the TFCC over time and not as the result of Mr Toa'fa's work tasks or work environment.

[23] On 28 October 2021, a Notice of Appeal was lodged.

[24] On 16 February 2022, Mr Toa'fa obtained a further opinion from a panel of Professor Des Gorman and Mr Michael Boland, Orthopaedic and Hand Surgeons. The Panel noted that Mr Toa'fa had worked as a slaughterman for 34 years, and agreed with Dr Walls that it was superficial simply to dismiss wrist pathology as a result of constitutional factors. The Panel commented:

There is MRI evidence of a tear of the particular disc, and oedema of the distal ulna at the site of the radioulnar ligaments. The former of these two would be a gradual wear process contributed to by the extreme repetitive nature of this patient's occupation. The second of these factors would be considered a forceful rotational event injury is described as occurring in 2020 when the patient lost control of carrying very heavy weight. ...

Is the pathology due to a work related gradual process injury? Yes, the work environment was a significant factor.

Did the subject's work tasks and/or environment entail a property or characteristic which cause or contributed to the cause of the relevant pathology? Yes.

Dr JM seems to ascribe the tear and associated osteoarthritis to the positive ulnar variance. In your view how significant/pronounced is the variance? The ulnar variance is 3mm. This is a variation of normal anatomy.

Did the ulnar variance cause the tear, in the absence of any material contribution from the work tasks? Not in isolation no.

Did it render the subject more susceptible to suffering the tear, which was caused or contributed to by the work tasks? Yes.

Does the bilateral positive ulnar variance seen on x-ray rule out the work tasks being the cause/material contributor? No, the positive variance is mild.

Do you agree with Dr CW that the wrist movements involved in the subject's work tasks would have lengthened the ulnar, such that impingement on the TFC was increased? Why/why not? No - actually, it will shorten the radius relative to the ulna. There is a dynamic "hammering" action of the distal ulna on the carpus with repeated forceful activities.

Do you agree with Dr JM that 1. Osteoarthritis elsewhere in the wrist would be expected as it indicates excessive wear and tear from the radius, with its greater loading on the carpal bones? Why/why not? No, not necessarily, as repeated loading could have been focused on the ulna wrist.

The absence of tenosynovitis, tendonitis, ligament disruption point away from an overuse type injury? Why/why not? No, not necessarily as there may have been a period of time or rest prior to scanning.

Is that causative property/characteristic present to any material extent in the subject's non work tasks/environment? No.

Are people who undertake the subject's work tasks in his environment at a significantly greater risk of suffering from the relevant pathology, compared with people who don't undertake those tasks in that environment? The panel is not aware of any relevant epidemiological data to answer this question with any confidence. As such, the consideration here needs to be on the basis of biological plausibility. In this case, there is a very biologically plausible basis for both an acute injury and a gradual process injury contributing to the subject's disability.

Do you agree with Dr JM that the work tasks would only give rise to a significantly greater risk in people who did not have an underlying positive ulnar variance? Why/Why not? No. Firstly, the positive ulnar variance is mild and can be considered to be within the normal range of anatomical variability. Secondly, there are no relevant epidemiological data to answer the question of increased risk regardless of ulnar anatomy.

[25] On 31 March 2022, Mr Vasudeva Pai, Orthopaedic Surgeon, provided a report, based on a file review of Mr Toa'fa's claimed injury. Mr Pai advised, *inter alia*:

Whether Mr Toa'fa's ulnar variance is due to morphological anomaly in his anatomy, or if it was caused by his work tasks or his work environment; In my opinion, in Mr Toafa his ulnar variance is due to a morphological anomaly in its anatomy than being caused by his work task environment. There is no evidence based literature to suggest that those doing butchery work are at an increased risk for developing an ulnar variance.

Whether there is a property or characteristic of Mr Toafa's work tasks or environment that caused or contributed to the cause of his injury; Not in my opinion. ...

If so, whether this property or characteristic is found to a material extent in Mr Toafa's nonemployment activities/outside the workplace for Mr Toafa; and, whether the risk of suffering this injury is significantly greater for persons who perform Mr Toafa's work tasks or who work in the type of environment that Mr Toafa is employed in, compared to persons who do not perform these work tasks and/or do not work in that type of environment. One of the non-employment factors is his age and the other is his underlying anatomy of an ulnar plus hand which in other words means that he would have developed similar symptoms in its natural course whether he was working as a butcher or doing clerical work. In my opinion, there is no increased risk of developing ulnar plus hand or TFCC tear or osteoarthritis with the type of work he has been doing.

Further, as part of your review, we would appreciate any comments you have in relation to the reports from Dr Chris Walls, Dr John Monigatti and Dr Michael Boland, including identifying any areas where you agree or disagree with their findings. My opinion is more in line with Dr Monigatti's opinion which I feel is evidence based, and is consistent with the AMA guidelines in Reference 3 where various occupational related articles have been stated. With regards his clinical assessment I can only depend upon Dr Monigatti's and Dr Wall's report and there was no clinical assessment by an orthopaedic surgeon in the documents provided to me, and my opinion has been substantially based on the MRI findings and occupational physician assessments. It is difficult for me to support Dr Wall's opinion as there is no evidence base that the occupation as a butcher causes an ulnar plus hand or TFCC tear or osteoarthritis. I have also addressed Dr Bolland's opinion with regards the importance of an ulnar plus hand with regards pressure generation even with 2mm.

[26] On 12 April 2022, Mr Pai also provided a supplementary report. He advised, *inter alia*, that an ulnar variance of 2 millimetres was clinically significant.

[27] On 18 May 2022, Mr Boland re-affirmed his previous opinion and cited various medical research papers in support.

[28] On 18 August 2022, Mr Toa'fa provided an affidavit in support of his appeal. He stated that all of his work involved significant pronation of his wrist. He described the work he did and the accident on 26 June 2020, when he wrenched his right wrist backwards (he now knows that this is called pronation). He noticed symptoms in his wrist straight away, including numbness, pins and needles and pain. He tried to continue working but could not get rid of the symptoms, and he was put on light duties. He is still on light duties at work and suffers pain in his wrist which he manages by using medication and wheat bags after work.

[29] At the hearing of this appeal on 17 July 2023, Mr Toa'fa gave a demonstration of the wrist movements required in his work.

Relevant law

[30] Section 30(2) of the Accident Compensation Act 2001 sets out the circumstances in which gradual process cover will be granted:

30 Personal injury caused by work-related gradual process, disease, or infection

(2) The circumstances are -

- (a) the person -
 - (i) performs an employment task that has a particular property or characteristic; or
 - (ii) is employed in an environment that has a particular property or characteristic; and
- (b) the particular property or characteristic -
 - (i) causes, or contributes to cause of, the personal injury; and
 - (ii) is not found to any material extent in the nonemployment activities or environment of the person; and
 - (iii) may or may not be present throughout the whole of the person's employment; and
- (c) the risk of suffering the personal injury-
 - (i) is significantly greater for persons who perform the employment task than for persons who do not perform it; or
 - (ii) is significantly greater for persons who are employed in that type of environment than for persons who are not.

[31] In *Ambros*,⁴ the Court of Appeal envisaged the Court taking, if necessary, a robust and generous view of the evidence as to causation:

⁴ *Accident Compensation Corporation v Ambros* [2007] NZCA 304, [2008] 1 NZLR 340.

[65] The requirement for a plaintiff to prove causation on the balance of probabilities means that the plaintiff must show that the probability of causation is higher than 50 per cent. However, courts do not usually undertake accurate probabilistic calculations when evaluating whether causation has been proved. They proceed on their general impression of the sufficiency of the lay and scientific evidence to meet the required standard of proof ... The legal method looks to the presumptive inference which a sequence of events inspires in a person of common sense

...

[67] The different methodology used under the legal method means that a court's assessment of causation can differ from the expert opinion and courts can infer causation in circumstances where the experts cannot. This has allowed the Court to draw robust inferences of causation in some cases of uncertainty -- see para [32] above. However, a court may only draw a valid inference based on facts supported by the evidence and not on the basis of supposition or conjecture ... Judges should ground their assessment of causation on their view of what constitutes the normal course of events, which should be based on the whole of the lay, medical, and statistical evidence, and not be limited to expert witness evidence ...

[32] In *Cullen*,⁵ Judge Beattie stated:

[25] For the avoidance of doubt, I indicate that the evidence makes it clear that whilst the cause of CTS is multifactorial, nevertheless the type of work movements and use of hands which the appellant would do in the course of his duties are such that they did at least contribute to the onset of his condition. Section 33(2)(b)(i) requires only that the particular work task contribute to the cause of the personal injury, that is it need not be the sole cause. In those, circumstances, the evidence satisfies that contributory test and therefore, I confirm that the test of (i) and indeed the test of (ii) have been satisfied.

[33] In *Knox*,⁶ Justice Young stated:

[23] Section 7 (1)(c) requires the decision-maker to make three assessments. The first is to assess the risk of a person carrying out the relevant work task in them relevant work environment developing the injury concerned, say x. The second step is to assess the risk persons who do not perform that task in that environment have of suffering from that personal injury, say y. The third step is to decide whether x is "significantly greater" than y. If it is, s 7 (1)(c) is satisfied. If not, then a claim for cover must fail.

⁵ *Cullen v Accident Compensation Corporation* [2001] NZACC 128.

⁶ *Knox v Accident Rehabilitation and Compensation Insurance Corporation* [2000] NZAR 609 (HC).

[34] In *Hunter*,⁷ Judge Cadenhead stated:

[37] ... [d] The risk of suffering that personal injury is significantly greater for persons performing that employment task in that environment than for persons who do not perform that task in that environment. The comparison of risk of suffering that personal injury performing that employment task means that the individual injury and employment task has to be considered against the risk of injury to persons who do not perform that task in that environment. The use of the word “persons” means that the specific employment task and injury has to be considered on an objective basis for the purpose of comparison. In considering the test in this subsection it is to be noted that whereas the tests in the first two subsections are particular to the claimant, the third test is general, the subsection referring to “persons” ... It is the comparison of that type of risk of injury with the risk of injury by people, who do not perform tasks involving those characteristics. This comparison may involve consideration of medical evidence along with the application of judicial impression. At the end of the day it should be resolved by relatively simple analysis of all the facts in the case. ...

[35] In *Christian*,⁸ Judge Cadenhead stated:

[22] It cannot be that the mere fact that there is no research in the particular employment tasks or in respect to the other group for comparison should prohibit the claim. If that was the case, then no person, who was not in a classified group that had been the subject of research into the particular employment tasks under consideration could claim. The assessment of risk is a subjective matter that may be aided by medical experience and comparative analysis.

[36] In *Mehrtens*,⁹ Judge Ongley noted:

[48] ... In relation to the medical evidence, particularly in an area where an opinion is relied upon, the Court will be influenced by the extent to which the medical opinion proceeds logically from as clear or settled a basis of fact as is possible (including the possible need for caution when significant reliance is based on a claimant's self report); appropriate analysis of that material including, where necessary, the presentation of a differential diagnosis; an appropriate level of regard for and consideration of medical research and studies bearing on the issue at hand applied to the particular facts of the case; and a logically reasoned conclusion which takes account of any differing views or factors which might contra indicate the opinion being presented. In this respect, an opinion which is seen to absorb and respond to matters (whether matters of fact or opinion) which challenge the view offered will often be regarded as more persuasive.

⁷ *Hunter v Accident Compensation Corporation* [2007] NZACC 261. See also *Cullen v Accident Compensation Corporation* [2005] NZACC 40, at [16].

⁸ *Christian v Accident Compensation Corporation* [2006] NZACC 133.

⁹ *Accident Compensation Corporation v Mehrstens* [2012] NZACC 250.

[37] In *Turner*,¹⁰ Judge Ongley stated:

[60] Once causation is established and attributed to work tasks or work environment, it would seem to be an unfair barrier to obtaining cover for a work related gradual process injury if the risk factor had to be markedly or substantially greater than the risk occurring in the general population. The of heightened risk would also be difficult to define in order to achieve consistency between claims. The alternative approach to construction, as Mr Beck submitted, is to regard ‘significantly’ to mean more than marginally, or a statistically significant increased risk. That is a construction more in line with the purpose of the legislation to provide for a fair and sustainable scheme for managing personal injury.

...

[62] ... if there is expert opinion either that an aspect of the tasks poses a special risk, or that epidemiological studies show that there is a palpably greater risk for the occupational group measured against the general population excluding persons doing that task, then the test would be satisfied without requiring proof that the difference is major or substantial. ...

[38] In *Simmons*,¹¹ Judge Powell assessed that a risk in the vicinity of 1.2-1.4 times (20-40% higher than) that of the non-exposed population would be a “significantly greater risk”.

Discussion

[39] The parties are agreed that Mr Toa’fa suffered a physical injury, this being a central perforation of the triangular fibrocartilage complex (TFCC) in his right wrist. The issue in this appeal is whether Mr Toa’fa’s TFCC tear qualifies for cover for a work-related gradual process injury.

[40] For Mr Toa’fa to qualify for cover for a work-related gradual process injury, he needs to meet three requirements. First, he must perform an employment task, or be employed in an environment, that has a particular property or characteristic. Second, the particular property or characteristic of his work must cause, or contribute to the cause of, his personal injury, and not be found to any material extent in his non-employment activities or environment. Third, his risk of suffering his personal injury must be significantly greater for persons who perform his employment task, in his type of environment, than for persons who do not.

¹⁰ *Turner v Accident Compensation Corporation* [2007] NZACC 229.

¹¹ *Simmons v Accident Compensation Corporation* [2015] NZACC 181.

Employment task with particular property or characteristic?

[41] The parties agree that Mr Toa'fa's work involves repetitive forceful gripping movements of the wrist or hand.

[42] However, Mr Buckley, for AMP, submits as follows. Full pronation of the wrist is not prevalent in Mr Toa'fa's work tasks, and there are sufficient breaks during his shifts and/or variation in the wrist movements, meaning that pronation is not a "particular characteristic" of his work tasks. Dr Monigatti's opinion, after examining Mr Toa'fa, was that his work tasks did not materially involve pronation of the wrist, and any pronation was balanced by at least an equivalent degree of wrist supination as well as the frequent rest periods during his shift so that there was no net aggravating effect.

[43] This Court acknowledges the above submissions. However, the Court points to the following evidence.

[44] First, Mr Toa'fa stated in his affidavit that all of his work involved significant pronation of his wrist, and that, on the day of the accident, he wrenched his right wrist backwards. At the hearing of this appeal, Mr Toa'fa gave a demonstration of the wrist movements required in his work, and these clearly demonstrated pronation as well as supination.

[45] Second, on 22 July 2020, Ms Mitchell, Counties Hand Clinic, recorded Mr Toa'fa's "pain on ulnar wrist pronation".

[46] Third, on 31 August 2020, Ms Richie, Occupational Health Physiotherapist provided a workplace assessment report in relation to Mr Toa'fa's work. Ms Richie recorded that Mr Toa'fa's "ring out" task required a full range of wrist movement as he manipulated the knife around the animal. Ms Richie also noted that Mr Toa'fa was still aware of wrist pain, particularly with ulna/radial deviation and pronation/supination.

[47] Fourth, on 13 July 2021, Dr Walls, Occupational Physician, having interviewed Mr Toa'fa, noted that his job required highly repetitive hand/wrist

activity undertaken at some pacing. Dr Walls could not see that Mr Toa'fa's work tasks spared his wrist from pronation, nor that supination was more prevalent than pronation. Dr Walls noted that, from his past observations of meat processing chain work, he would expect the work tasks to involve all planes of wrist movement. Dr Walls added that the rest periods in Mr Toa'fa's work did not prevent an injurious process from his work.

[48] This Court finds that the above evidence provided by and on behalf of Mr Toa'fa reflects the realities of his work, as materially involving pronation, and that this evidence is preferred to the view of Dr Monigatti. The Court concludes that Mr Toa'fa performed an employment task that had a particular property or characteristic, namely, repetitive forceful gripping movements of the wrist or hand which materially included pronation.

Property/characteristic of work causing/contributing to cause of personal injury?

[49] The parties agree that x-ray imaging of Mr Toa'fa's wrists showed that he has ulnar positive variance, a condition where the ulnar is longer than the radius of the wrist. The parties also agree that the properties and characteristics of Mr Toa'fa's work are not found in his non-work activities.

[50] Mr Buckley submits as follows. Mr Toa'fa has not established, on the balance of probabilities, that the property or characteristic of repetitive forceful gripping movements of the wrist or hand caused, or contributed to the cause of, the claimed injury. Dr Monigatti assessed that Mr Toa'fa's clinically significant positive ulnar variance, due to a morphological anomaly in his anatomy, caused the claimed injury. Mr Boland stated that Mr Toa'fa has approximately three millimetres of ulnar positive variance in his right wrist. Mr Pai advised that three millimetres of positive ulnar variance is clinically significant, based on the research he had reviewed (including that of Werner published in 1981). Mr Pai further advised that it was a combination of ageing and constitutional/genetic factors that formed the substantial cause of Mr Toa'fa's symptoms, and that the postural demands of his work tasks may have rendered his injury symptomatic

[51] This Court acknowledges the above submissions and evidence. However, the Court points to the following evidence.

[52] First, Dr Reeves, Radiologist, reported that the x-ray of Mr Toa'fa's right wrist showed only mild positive ulnar variance.

[53] Second, Dr Walls, Occupational Physician, having interviewed and examined Mr Toa'fa, assessed that his heavy work over 35 years produced excess (extreme) wear to the TFCC and played some significant (well in excess of trivial) contribution to the "degenerative" changes in both wrists, particularly the right. Dr Walls considered that to dismiss Mr Toa'fa's wrist pathology as the result of constitutional factors was superficial, as there was a sufficient exposure and sufficient medical knowledge to accept that his occupation had contributed significantly to his wrist pathology.

[54] Third, Professor Gorman and Mr Boland, Orthopaedic and Hand Surgeon, assessed that Mr Toa'fa's work-related gradual process injury contributed to ulnar wrist pathology including the TFCC tear and degenerative changes in the ulnar wrist. In relation to the ulnar variance, Professor Gorman and Mr Boland noted that Mr Toa'fa's positive ulnar variance was a mild variation of normal anatomy, and did not (in isolation) cause the tear in the absence of any material contribution from the work tasks. Professor Gorman and Mr Boland advised that the ulnar variance did not rule out the work tasks being the cause/material contributor of the tear.

[55] Fourth, Mr Boland later referred to published research by Werner in 2015 (conducted significantly later than that cited by Mr Pai) which found no relationship between the amount of force through the distal ulna and the amount of ulnar variance. Mr Boland concluded that all wrists have similar loading across the distal ulna regardless of ulnar variance, and, by comparison, pronation relatively increases loading across the distal ulna.

[56] This Court prefers the above evidence provided on behalf of Mr Toa'fa, to that of Dr Monigatti and Mr Pai, and concludes that the property/characteristic of Mr Toa'fa's work at least contributed to the cause of his personal injury. The

Court's finding is grounded on its view of what constitutes the normal course of events, based on the whole of the medical evidence.

Risk of suffering personal injury significantly greater for persons performing employment task than for persons who do not?

[57] Mr Buckley submits as follows. Mr Toa'fa has not established, on the balance of probabilities, that the risk of suffering the claimed injury is significantly greater for persons performing his work tasks or working in that environment than for those who do not perform those work tasks/work in that environment. Dr Monigatti advised that there is no support in the medical literature for the proposition that there is a significantly greater risk of developing positive ulnar variance and, by extension, the risk of developing the claimed injury. Mr Pai also advised that there was no increased risk of developing ulnar plus hand or TFCC tear with the type of work Mr Toa'fa had been doing.

[58] This Court acknowledges the above submissions and evidence, and that there is no epidemiological study as to significantly greater risk relating to butchers and wrist injuries. However, it has been rightly held that the mere fact that there is no research in an appellant's particular employment tasks or in respect to the other group for comparison should prohibit the appellant's claim, and that the assessment of risk may be aided by medical experience and comparative analysis.¹² In this regard, the Court points to the following evidence.

[59] First, Dr Walls, Occupational Physician, assessed that the evidence was sufficient to establish (on balance) that people performing the work tasks at the intensity Mr Toa'fa had, for as long as he had, would be at a significantly greater risk of suffering TFCC tears. Dr Walls identified a study around oyster shuckers which had similar occupational demands, and noted that this study confirmed that oyster shuckers had a higher prevalence of ulnar abutment syndrome.

[60] Second, Professor Gorman and Mr Boland, Orthopaedic and Hand Surgeon, in response to the question whether people who undertook Mr Toa'fa's work tasks in his environment were at a significantly greater risk of suffering from the relevant

¹² *Christian*, above note 8, at [22].

pathology, compared with those who did not, advised that there was a very biologically plausible basis for both an acute injury and a gradual process injury contributing to Mr Toa'fa's disability.

[61] Third, Mr Boland later confirmed that much of Mr Toa'fa's work was forceful heavy work in pronation leading to forces through the ulnar side of the wrist much greater than the average person would be subject to, and, in Mr Toa'fa's case, was "a lifetime of these forces".

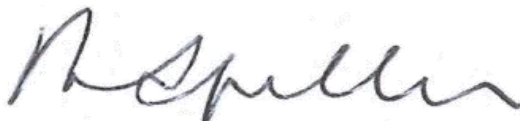
[62] On the basis of medical experience, comparative analysis and judicial impression, this Court prefers the above evidence provided on behalf of Mr Toa'fa to that of Dr Monigatti and Mr Pai, and concludes that the risk of suffering Mr Toa'fa's personal injury was significantly (palpably) greater for persons performing his employment task than for persons who do not.

Conclusion

[63] For the above reasons, this Court finds that Mr Toa'fa has established that he meets the statutory test for cover for his right wrist injury as a work-related gradual process injury caused by his accident.

[64] This appeal is therefore allowed, and the review decision of 30 August 2021 is set aside. The Court directs that WellNZ will, as soon as possible, confirm with Mr Toa'fa that cover is granted to him and proceed to determine any entitlements that flow from this cover.

[65] Mr Toa'fa is entitled to costs. If these cannot be agreed within one month, I shall determine the issue following the filing of memoranda.



P R Spiller
District Court Judge

Solicitors for the Appellant: Armstrong Thompson.