

**Dr James Powell**  
**MBBS FRACS FAOrthA**  
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**14 February 2023**

**Ms Safa Jan**  
Senior Associate  
Moray & Agnew - Sydney  
Level 24, 233 Castlereagh Street  
SYDNEY NSW 2000

Dear Ms Jan

### **INDEPENDENT MEDICAL EXAMINATION**

**Re** : ██████████  
**Date of Birth** : ██████████  
**Date of Injury** : **29 November 2003**  
**Claim No** : ██████████  
**Date of Consult** : **16 January 2023**

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Thank you for asking me to see Mr ██████ on 16 January 2023 at my **Sydney** rooms.

Thank you for the documentation provided.

### **CODE OF CONDUCT**

I acknowledge that I have read the Expert Witness Code of Conduct contained in Schedule 7 of the Uniform Civil Procedures Rules 2005. I agree to be bound by the Code.

I also acknowledge that I have read the PIC4 Procedural Directions for Expert Witness Evidence and I agree to be bound by these Directions. To the best of my ability this report has been prepared in accordance with these Directions.

In the preparation of this report I have complied with the requirements of Medicins Legale's privacy policy as outlined in the Australian Privacy Principles.

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## INTRODUCTION

At the commencement of the interview I explained the purposes of an independent medico-legal examination. I indicated that I was not a treating doctor and that I was not able to provide any advice.

My report is based on the history provided by Mr [REDACTED], the appropriate clinical examination and the documentation provided.

## BACKGROUND

Mr [REDACTED] served in the NSW Ambulance Service since 1977.

He trained as a paramedic and was engaged in general duties at various places in New South Wales, before settling in the South Coast area at Narooma, where he spent the majority of his career up until leaving the Ambulance Service around 2012, following an incident involving his lumbar region in 2010.

Subsequently he taught first aid. (He obtained a business from another retired ambulance officer around 2010.) He and his wife ran first aid courses on demand through the South Coast region, up until October 2022 when he closed the business (which was run through a central organisation). He has yet to sell his equipment.

He will be retiring and not re-entering the workforce.

He has done no other jobs.

## HISTORY – FIRST INCIDENT – LUMBAR SPINE

In 1979, (your referral letter suggested this occurred in 1983), Mr [REDACTED] was involved in carrying a disabled child, aged around 9 but of solid build, from a domestic house to the ambulance. He thinks the child weighed around 40kg and he was carrying her in both arms, flexed at the elbows.

On going into the property, he had gone through a metal gate, which was around groin height. It had closed as he was bringing the child out, and so he went to straddle the gate, putting one leg over, but as he did so, the child who was not struggling but started to fall forward, and to retrieve his balance he leaned back but was unable to move forwards.

He called out to the mother who came and opened the gate, and he moved himself off the gate which he had straddled, and he was doing this he felt a sudden “*bang*” in the lumbar region with pain radiating to the right lower limb (which he described as through the sciatic nerve), which extended into the buttock area and he thought down to the posterior thigh, possibly to the knee.

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## **SUBSEQUENT HISTORY – LUMBAR SPINE**

Mr [REDACTED] completed the job, called the coordinator to advise of the incident, and was then seen by his local doctor.

He was advised that he had suffered a back strain and was off work for about 2 weeks and self-managed his symptoms with the assistance from analgesics.

He found that the symptoms in the back and right leg resolved.

Over subsequent years Mr [REDACTED] would have episodes of back pain, often at the end of a busy day for which he would rest. He did not seek any medical assistance or have any external treatment and these symptoms would settle with rest and he would carry on with his normal duties as an ambulance officer and other general activities.

## **SECOND INCIDENT – LUMBAR SPINE**

In 1990, (your referral letter indicated that this occurred on 18 May 2007), Mr [REDACTED] and another officer were going out on a job in stormy conditions from Narooma into a rural area, when a tyre blew.

They called in the difficulty. There were no external road surfaces, NRMA or other assistance available, given the conditions and the coordinator asked if they could change the tyre.

The vehicle was a Volkswagen design and the spare tyre was under the rear of the vehicle and needed to be accessed by getting under the vehicle, which Mr [REDACTED] did on his back. He lowered down the tyre and then dragged it out, crawling on his side, and as he did so, pulling the tyre across the ground, he felt a sudden “*bang*” in the lumbar region with pain radiating to the right lower limb in a similar distribution as previously.

## **SUBSEQUENT HISTORY – LUMBAR SPINE**

Mr [REDACTED] saw his local doctor. Scans were done.

(Mr [REDACTED] indicated that imaging showed thoracolumbar scoliosis and degenerate change. No explanation for the development of these changes was put forward. There was no known history of adolescent scoliosis, nor of any familial involvement.)

He was referred for physiotherapy. He did exercises, elastic band work and some water based therapy, and over several months his symptoms, “*absolutely*” resolved.

He had analgesics at the time, but did not continue these on.

He returned to his normal work duties.

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### **THIRD INCIDENT – LUMBAR SPINE**

In 2010, (your referral letter indicated this occurred on 11 June 2006 following which he went off work and returned to normal duties on 27 June 2006), Mr [REDACTED] and another officer were attending a disabled woman who had fall off the toilet in a bathroom and was wedged between the wall and the toilet.

He was lifting the patient from the upper body, and his colleague from the lower body, requiring to swivel her to get her onto a stretcher, and as he attempted to lift her, he felt a sudden severe pain (with a “bang”) in the lower lumbar region radiating to the right lower limb, as previously.

Mr [REDACTED] saw his local doctor.

Imaging was undertaken and he was found to have disc abnormalities from L2 to S1.

Mr [REDACTED] was referred to Dr Chandran, Orthopaedic Surgeon in Canberra, who advised a five level fusion from L2 to S1.

(Correspondence indicated that Mr [REDACTED] was assessed by Professor Stanford, Orthopaedic Surgeon, in 2007. He had a right L5/S1 nerve root injection with symptomatic improvement for 24 hours and then exacerbation of symptoms with some tingling to the right knee and calf. The principal complaint was of right proximal buttock pain, aggravated by walking with a 200m limitation.

There was no motor deficit in the right lower limb identified. Some minor sensory change was noted at the lateral right calf. Nerve root tension signs were negative.

Imaging noted left L4/5 disc protrusion.

Right sided symptoms could not be ascribed to this lesion.

No other level of compression was identified.

Professor Stanford was perplexed with regard to the source of symptoms.

Hip and pelvic imaging was recommended.

Previous dynamic imaging had shown lumbar degenerate disease, minor intervertebral motion noted with no significant changes. MR showed mild central canal stenosis at L3/4. No lateral recess compression on the right.)

### **OPERATIVE MANAGEMENT – LUMBAR SPINE**

In June 2010, Mr [REDACTED] had an instrumented fusion from L2 to S1.

This was then followed by physiotherapy and exercise over the next 6 months or so.

Mr [REDACTED] found that back pain symptoms were resolved, along with right lower limb symptoms.

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Mr [REDACTED] attempted to return to work but had stiffness in the lumbar spine, and difficulty moving about, and so did not persist and was retired from the Ambulance Service (around 2012).

Since then Mr [REDACTED] has had intermittent difficulties in the lumbar region. He has altered how he undertakes activities, avoids any heavy lifting, but at times experiences pain in the lumbar region in the same area as before with radiation to the right lower limb which is generally managed by a period of rest, the use of analgesics and on occasions, physiotherapy.

### **CURRENT SYMPTOMS – LUMBAR SPINE**

Mr [REDACTED] experiences occasional intermittent pain in the lumbar region. (He indicates around the upper lumbar area radiating to the right posterior abdominal region and sometimes to the buttock area, but not below the cheek.)

He finds these symptoms can occur if he sits for more than 2 hours and he needs to get up and move about. He is careful with activities but sometimes experiences some discomfort with moving about.

He uses analgesics from time to time as needed.

No other treatments have been suggested.

### **PREVIOUS HISTORY – LUMBAR SPINE**

Prior to the incident of 1979, Mr [REDACTED] had had no previous injuries nor symptoms in the lumbar region.

### **FURTHER HISTORY – CERVICAL REGION**

In 2002, (your referral letter suggested this occurred on 29 November 2003), Mr [REDACTED] was going out on a job. The ambulance station had a wide roller door, 10m wide and 3m high, which was pulled down by the use of a metal bar and hook, placed into the centre of the roller door, and the officer would then pull it down to close it.

On this occasion, Mr [REDACTED] pulled down on the bar with his right upper limb and felt a pain at the right side of the neck, extending to the right shoulder region (indicating the trapezius area, the mid superior shoulder girdle region).

He reported this incident.

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## **SUBSEQUENT HISTORY – CERVICAL REGION**

Over the next few days Mr [REDACTED] found that he developed loss of feeling and a numbness in the right upper limb, extending from the right side of the neck through the deltoid region, arm and forearm to the wrist, but not into the hand.

He also became aware of weakness in the right upper limb, particularly at the shoulder with difficulty elevating his shoulder above the horizontal, but also at the elbow, wrist and hand, and he started to drop objects.

Mr [REDACTED] went to see his local doctor. Scans were done and he was found to have a disc abnormality at C4/5.

After about a week, because of the imaging changes, Mr [REDACTED] was referred to Dr Pik, Orthopaedic Surgeon, in Canberra, who assessed him and advised that he would need at C4/5 fusion.

(Assessment by Dr Andrews, Neurologist, on 17 December 2003, following the lifting incident on 29 November 2003, noted weakness of right deltoid, absent biceps and supinator jerks, with no other neurologic changes, considered to be C6 nerve root involvement.)

## **OPERATIVE MANAGEMENT – CERVICAL SPINE**

Shortly afterwards, Mr [REDACTED] proceeded to C4/5 fusion, followed by light physiotherapy for several months.

(Your referral letter indicated that this was performed on 16 January 2004 by Dr Chandran).

He found that his pain symptoms were resolved, the weakness and sensory alteration about the right upper limb improved and he returned to work.

He had no further difficulties.

## **RECENT HISTORY – CERVICAL SPINE**

In 2020, Mr [REDACTED] was shaving one morning and found that he was not able to elevate his right upper limb above the horizontal at the shoulder, and he developed a “tick” in the hand and upper limb and could not hold the razor and dropped it frequently. He could not perform the movements for shaving.

He went to see his local doctor. Imaging was undertaken of the neck and he was found to have further disc troubles.

He requested referral to Dr Pik, but he was no longer doing WorkCover cases and suggested he be seen by Dr Ow-Yang, Neurosurgeon.

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(Correspondence indicated that Mr [REDACTED] was first assessed on 16 April 2020 by Telehealth, indicating that acute weakness about the right shoulder region occurred in December 2019, the symptoms being identical to those that he had experienced in 2003, prior to C5/6 stabilisation.)

Further imaging was undertaken and it was recommended that Mr [REDACTED] have disc replacements at two levels as they had worn out. (This was at C3/4 and he could not recall which other level.)

### **OPERATIVE MANAGEMENT – CERVICAL SPINE**

Shortly afterwards, Mr [REDACTED] proceeded to a two level disc replacement.

(Dr Ow-Yang's correspondence indicated that this was C3/4 and C4/5 disc replacement, performed on 26 May 2020.)

This was then followed by physiotherapy.

He had no further treatment.

### **CURRENT SYMPTOMS – CERVICAL SPINE**

The pain and weakness in the right upper limb resolved.

The only persisting difficulty has been lack of elevation of the right arm above shoulder height actively. (This was put down to nerve damage affecting his rotator cuff and his physiotherapist, after several months, indicated that there would be no further recovery and further management was suspended.)

Currently Mr [REDACTED]'s main difficulty is lack of active elevation above shoulder height. (Passively he could lift the arm a little higher with the opposite side.)

He found that crunching in the neck region that had developed at the time of onset of symptoms resolved following surgery.

### **PREVIOUS HISTORY – CERVICAL SPINE**

Prior to the development of symptoms around 2002, Mr [REDACTED] had had no previous injuries nor symptoms involving the cervical region nor right upper limb.

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## PREVIOUS MEDICAL HISTORY

Around 2005, while riding a jet ski, Mr [REDACTED] fell off, injuring his right shoulder, sustaining a fracture of the humeral neck.

This was managed operatively by Dr Vrancic, Orthopaedic Surgeon, who put a cage in, and this was followed by physiotherapy, and he regained full movement.

(Dr Vrancic's correspondence indicated that Mr [REDACTED] had an impacted abduction fracture of the right humeral neck, managed by open reduction and locking plate fixation on 9 August 2012.

At 12 months post-operatively Dr Vrancic noted persisting grade 4 supraspinatus weakness but no other abnormality and some intermittent symptoms.

X-ray imaging had shown that the fracture had united in satisfactory position and Dr Vrancic recommended continuing with strengthening exercise.)

Mr [REDACTED] has had a previous myocardial infarct requiring stenting, and has been on cardiac medication since then.

(Your referral letter indicated that this occurred in 2005, with stenting in 2006.)

He had an inguinal hernia repair many years ago.

He has developed osteoarthritis of the left knee. He came to an arthroscopic debridement in 2017 with temporary improvement of symptoms (carried out by Dr Nott, Orthopaedic Surgeon, who also advised that within 5 years he would come to joint replacement).

He is considering joint replacement in the near future for persisting left knee pain and stiffness in both flexion and extension.

## WORK HISTORY

As outlined above, Mr [REDACTED] joined the Ambulance Service in 1977, straight from school. He served in the Ambulance Service up until 2012 (having ceased active work around 2010).

(Your referral letter indicated that Mr [REDACTED] ceased duties in the Ambulance Service on 17 April 2009, and medical retirement was on 1 July 2010.)

Since around 2010 until 2022, he worked in his own business with his wife, doing first aid courses in the South Coast area, which he has now ceased and is in the process of selling the business equipment and does not plan to re-enter the workforce.

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## ACTIVITIES

At school and in his early years in the Ambulance Service, Mr [REDACTED] played rugby union and rugby league, but was not able to continue these.

He also played cricket, carrying on some cricket in his early years until rosters made it impossible.

He had a fishing boat when he lived on the South Coast, but he has sold this.

He also enjoyed scuba diving. (He found scuba diving and fishing more difficult following his lumbar fusion.)

## DOMESTIC

Mr [REDACTED] has moved to the Central Coast region into a suburban area, where he lives in a single level house with his wife.

Mr [REDACTED] can undertake activities where his arms are dependent. He avoids anything that involves heavy lifting or bending, so as to protect his lumbar region. He does not undertake any activities above shoulder height given his right shoulder region stiffness.

He obtains assistance and will be obtaining assistance in renovations such as putting in a garden shed with a concrete slab for the heavy aspects of the job.

## EXAMINATION

Mr [REDACTED] appeared to sit comfortably through the interview. He could rise from a chair without difficulty.

He dressed and undressed from a combination of sitting and standing.

As he stood, he had flattening of the lumbar lordosis, with a forward tilt at the upper torso, and stood with both legs slightly wide-based with flexion at both knees, more marked on the right than left, in a varus alignment.

He maintained this position with walking.

Overall, his power was satisfactory, but balance was challenged in both heel and toe-walking and single leg standing.

### **Cervical Spine**

The surgical wounds in the cervical area were well healed and not tender.

Movement was in the upper segments of the cervical region and occipito-cervical junction, where Mr [REDACTED] showed good flexion and extension. Lateral flexion and rotation were to approximately half range without discomfort. There was minimal active movement in the lower cervical region, and no tenderness in the area nor muscle guarding.

### **Upper Limbs**

General circulation, temperature and sweating were symmetric. Sensation was intact.

Mr [REDACTED] showed satisfactory range of active motion at the elbows, forearms, wrists and fingers without discomfort, and had normal flexion, extension and cascade in the fingers.

Grip strength was well preserved, as was power about the elbows, forearms and wrists.

Intrinsic function was intact.

### **Right Shoulder**

At the right shoulder, there was no tenderness to palpation. There was prominence of the acromioclavicular joint without discomfort. There was wasting mainly of deltoid and less of other periscapular muscles.

There was no obvious trapezius wasting.

Active range of motion showed flexion to 90° with extension of 40°, abduction to 90° with adduction of 30°, external rotation of 20° and internal rotation of 60°. Mr [REDACTED] was able to improve his flexion and abduction with his left upper limb, but only to around 120° of flexion and 110° of abduction which he did in an adaptive movement of the torso to give the impression of a greater range of motion at the shoulder.

At the left shoulder, he had some prominence of the acromioclavicular joint. Flexion was to 180° with extension of 50°, abduction to 180° with adduction of 40°, external rotation of 30° and internal rotation to 70° with some mid range crepitus.

Power about the right shoulder, apart from the deltoid, was well preserved, in adduction, internal and external rotation against resistance and with lift-off test and equal with the opposite side.

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### **Lumbar Spine**

In the lumbar spine, there was no tenderness to palpation or percussion.

Movement occurred at the upper thoracolumbar junction region, where there was a slight prominence of the spinous processes, though no tenderness.

There was no movement at the mid to lower lumbar spine, nor lumbosacral junction.

Movements within the restricted range were synchronous without discomfort.

There was no abdominal tenderness and no discomfort on loading the pelvis.

### **Lower Limbs**

In the lower limbs, sensation was intact, power to manual testing was symmetric and normal, and reflexes were difficult to elicit. Stretch tests were negative.

Hip movements were without irritability, and with slight restriction of internal compared to external rotation bilaterally, although without discomfort.

At the left knee, Mr [REDACTED] had palpable osteophytes and he held the knee in 10° of flexion and flexed to 95° with mid range crepitus and paradoxical medial laxity without discomfort.

At the right knee, there were also palpable osteophytes. Range of motion was from a few degrees of flexion through to 110° with some crepitus without discomfort.

## **INVESTIGATIONS**

Imaging was with various studies undertaken over time, all in one bag, and not in any date order.

**MR Cervical Spine dated 17 December 2003** (report) noted C3/4 early hypertrophic neurocentral joint arthrosis without neural compromise. There was a right lateral disc osteophyte at C5/6 with foraminal stenosis.

**CT Guided C5/6 Foraminal Block dated 22 December 2003** was performed.

**X-ray Cervical Spine dated 17 January 2004** was post-operative C5/6 anterior fusion in good alignment.

**X-ray Cervical Spine dated 7 May 2004** (report) noted C5/6 fusion to be sound.

**Neurophysiologic Studies Lower Limbs dated 8 February 2007** were performed by Dr Andrews and suggested right L5 nerve root entrapment.

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**MR Lumbar Spine dated 30 March 2009** (report) indicated a history of bilateral sciatica clinically at L4/5 and L5/S1. At T12/L1 there was disc and facet joint degenerative change without neural compromise. At L1/2, there was disc space narrowing with posterior bulge indenting the thecal sac with no neural compromise. There was hypertrophic facet arthrosis bilaterally at this level. At L2/3, there was a posterior disc bulge with canal narrowing and impingement on the thecal sac, without neural compromise. There was bilateral facet arthrosis at this level. At L3/4, there was a posterior disc bulge causing canal stenosis and bilateral nerve root impingement. Moderate bilateral facet arthrosis was noted at this level contributing to canal stenosis. At L4/5, there was a posterior disc prolapse with left protrusion with L4 and L5 nerve root impingement in the lateral recess. There was bilateral hypertrophic facet arthropathy at this level. At L5/S1, there was degenerate change without neural compromise.

**X-ray Spine dated 18 May 2009** (report) noted that in the cervical region there was reduced lordosis with mild kyphosis. There was a C4/5 fusion. Degenerate change was noted at C2/3 and C4/5. There was mild kyphosis in the thoracic region with early degenerate change in the upper and lower thoracic spine. At the lumbar spine, there was lumbar scoliosis convex to the right, centred at L3/4 with grade I anterolisthesis and degenerate disc change at all levels.

**X-ray Cervical and Lumbar Spine dated 24 November 2009** was post-operative and showed C5/6 anterior fusion and L2 to S1 posterior instrumented fusion. There was a 4° generalised thoracic scoliosis convex to the right with thoracic spondylosis. There was 20% anterior wedging of T11. There was a 15° lumbar scoliosis convex to the left, centred at L2. There was minimal anterolisthesis at L3/4.

**CT Lumbar Spine dated 24 November 2009** reported the thoracolumbar scoliosis. There was reduced disc height at L3/4 to L5/S1 with posterior disc bulge at L2/3, L3/4 and L4/5, and minimal L5/S1 disc bulge. There was left L5 nerve root compromise. The lateral mass bone graft material in the lumbar spine appeared sound.

**X-ray Lumbar Spine dated 24 August 2010** was post multilevel fusion with instrumentation.

**MR Right Shoulder dated 21 May 2020** (report supplied) showed artefact from internal fixation. The rotator cuff appeared intact. Mild fatty infiltration was noted in supraspinatus, teres minor and infraspinatus. Marked atrophy was noted in subscapularis.

Imaging noted by Dr Biggs in his report of 11 May 2010:

**CT Lumbar Spine dated 13 November 2006** showed widespread spondylitic changes.

**MR Lumbar Spine dated 30 March 2009** showed widespread spondylitic change.

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Imaging noted by Dr Ow-Yang in his report of 26 April 2020:

**MRI Cervical Spine** showed the previous C5/6 anterior fusion. There was prominence adjacent segment degenerate change at C3/4, C4/5 and C6/7. At C3/4, there was moderate canal stenosis and mild foraminal stenosis with broad based disc bulge and uncovertebral joint arthrosis with hypertrophy contributing to bilateral C4 nerve root compression. At C4/5, there was reduced disc height, a large right posterior disc osteophyte complex causing right foraminal stenosis and C5 nerve root compression. At C6/7, there was loss of disc height and bilateral uncovertebral joint arthrosis contributing to stenotic disease.

Imaging noted by Dr Ow-Yang in his report of 14 May 2020:

**Ultrasound Right Shoulder** showed some thinning of the supraspinatus muscle with the rotator cuff being intact. The biceps tendon was absent.

From previous report of 12 June 2009:

**Plain X-rays Lumbar Spine dated 11 August 2006** showed multilevel degenerate change with osteophyte formation from L1/2 progressing down through the spine with narrowing of the L5/S1 disc, and a mid lumbar scoliosis convex to the left of around 15°.

**CT Lumbar Spine dated 11 August 2006** showed spinal stenosis with narrowed spinal canal, principally in the upper lumbar region at L1/2 and L2/3. Marked facet joint hypertrophy was noted. There were multilevel disc bulges with osteophytes compromising the canal and foraminae.

**CT Lumbar Spine dated 10 November 2006** showed little change from previous imaging.

**MR Lumbar Spine dated 21 December 2006** showed widespread degenerate change with canal and foraminal stenosis at multiple levels.

**X-ray Pelvis & Hips dated 10 November 2006** showed bilateral hip dysplasia with shallow acetabula and some early degenerate change.

## SUMMARY

Mr [REDACTED] has a long history of lumbar back pain with radiation to the right lower limb, initially developing around 1979 after carrying a child in the course of his work as an ambulance officer.

He had episodes of lumbar back pain intermittently following this, with a further incident in 2006 when lifting a heavy patient in a bathroom, and with further symptoms in 2007 when changing a tyre on an ambulance during a call out.

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Mr [REDACTED] was found to have multilevel degenerate change throughout the lumbar spine with canal and foraminal stenosis, and came to an L2 to S1 decompression and instrumented fusion which improved back and lower limb symptoms.

He has had some difficulties with stiffness with posture and activity related pain subsequently.

Mr [REDACTED] developed pain and sensory symptoms on the right side of the neck extending into the right upper limb in 2003, and proceeded to a C5/6 decompression and fusion which improved symptoms.

He had recurrence of neck pain and right upper limb symptoms with difficulty elevating his arm at the shoulder and difficulty using his hand, of spontaneous onset in 2019. He was found to have progression of degenerate disease above and below the C5/6 fusion, and came to C3/4 and 45 disc replacement with improvement of symptoms.

He has persisting right shoulder stiffness and has had a previous proximal humeral fracture requiring open reduction and internal fixation.

Following retirement from the Ambulance Service, Mr [REDACTED] did part time work in first aid education in the South Coast area, ceasing this in October 2022 when he reached the age of 65.

**In answer to your questions:**

**1. The nature and extent of any injuries to his cervical spine and lumbar spine suffered by the claimant in the course of his employment or as a result of any of the specific injuries mentioned above, as currently presenting.**

Mr [REDACTED] has a complex presentation and history with regard to the musculoskeletal system extending over many years.

In the lumbar region, Mr [REDACTED] developed multilevel spondylosis extending from the lower thoracic region to the sacrum with canal and foraminal stenosis.

He has come to multilevel fusion from L2 to S1 with decompression.

Mr [REDACTED] has multilevel cervical spondylosis coming to C5/6 fusion and later to disc replacement at C3/4 and C4/5 following development of symptoms and signs in the upper limbs from a neural aetiology.

He has also suffered a right proximal humeral fracture requiring reconstruction and internal fixation with some persisting stiffness, and is known to have developed osteoarthritis of the knees, symptomatic on the left.

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As outlined in the history above, Mr [REDACTED] has had a number of incidents in the workplace, developing symptoms in the lumbar region and also in the right upper limb attributed to the cervical region.

It is difficult to determine from Mr [REDACTED] and the material provided as to whether any specific structural injury occurred in the lumbar or cervical regions. It appears more that the incidents produced symptoms leading to medical assessment and imaging which identified the overarching degenerate pathology. (The aetiology of his widespread musculoskeletal disease is principally constitutional and over time, additional age factors. There is no indication that he has any additional pathologic processes, there being no evidence of autoimmune disorder, connective tissue disorder, metabolic, crystalline or any other disorder associated with the development of musculoskeletal degenerate disease.)

Surgical management undertaken in the lumbar region was predominantly for the effect of stenotic disease and destabilisation from degenerate disease rather than for the specific effects of any of the relatively minor workplace incidents.

Similarly, in the cervical region, the initial stabilisation procedure was undertaken for the disease process that allowed his neural symptoms to arise in a pulling down action using the right upper limb to achieve decompression. Subsequent stabilisation with disc replacements proximally has been for the progression of natural disease (expressed as neurologic dysfunction in the right upper limb in 2020).

**2. Having regard to the history you elicit from the claimant and the annexed documents, your views regarding causation.**

As outlined above, Mr [REDACTED]'s underlying pathology is one of a degenerate nature which is principally constitutional in nature with the addition of age factors as he has proceeded with life, with no other contributing disease process (excluding the right shoulder component which related to a specific injury event requiring reconstructive surgery and likely to be the main contributor to persisting right shoulder stiffness).

In the cervical and lumbar regions, Mr [REDACTED]'s particular development of disease expressed itself as a tendency to canal and foraminal stenosis at various levels, impacting on neurologic function and pain symptoms.

This disease process is continuing and will continue (around the modifications imposed by surgical stabilisation).

None of the workplace incidents are of sufficient power to influence the natural history of the disease process, against which he was struggling.

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The initial incident of 1978 was of low energy and most likely represented non-specific soft tissue strain. (It is unlikely that his disease process had manifested itself clinically by that time in his life.) The other two incidents were of a minor mechanical nature, but sufficient to produce symptoms that led Mr [REDACTED] to seek medical assistance, and by the time of the third incident his disease process had become well advanced on imaging.

It is likely that the mechanical efficiency of his lumbar region had diminished to the point that a minor incident of this nature would produce symptoms.

Subsequent surgical procedure, however, was performed for Mr [REDACTED]'s more widespread disease process with a lengthy decompression requiring support of a long fusion. This type of procedure does not arise from the effects of a minor back strain.

In the cervical region, initial presentation was after performing the physical activity of low energy at the right upper limb, producing symptoms and awareness of developing weakness. This action does not place the cervical spine components under mechanical load but may irritate exiting neural structures that have become compromised by advancing disease, particularly if there are foraminal stenotic components.

As there is no direct treatment for nerve root irritation, the management is indirect by decompressing the region, either by foraminotomy if there is no other significant contributing stability difficulties, or by fusion and decompression if there is (which appears to have been the option exercised by Mr [REDACTED]'s treating neurosurgeon at the time).

Mr [REDACTED]'s subsequent progression to stabilisation through disc replacement for proximal disease following a neurologic presentation represents the advancement of a natural process, in conjunction with his tendency for stenosis.

While a component of this might be explained by what is called, "*adjacent segment disease*", following C5/6 fusion (undertaken in response to the effect of the workplace incident of 2003), this is a minor component (and cannot be separately excised) and the advancement of his natural disease which was already present at other levels prior to the workplace incident is the main component leading to subsequent surgical intervention.

**3. What restrictions, if any, should now be placed upon the claimant's capacity to perform employment on the open labour market for which he is suitably qualified as a consequence of any injury to his cervical and lumbar spine?**

Mr [REDACTED] has undergone multilevel stabilisation in the cervical spine and with a disease process that will continue.

He also has had multilevel stabilisation (almost the entire) in the lumbar spine, also in a disease process which will continue.

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Mr [REDACTED] is known to have osteoarthritis of his knees, symptomatic in the left, for which he is considering joint replacement.

He also has right shoulder stiffness, principally related to trauma in the region but also likely to have some periscapular muscular weakness associated with his cervical spondylosis and stenotic disease. (Full neural recovery following decompression is not often achieved, although neural function can improve.)

Mr [REDACTED] is therefore restricted in the level of physical activity that he should undertake or environmental factors that he should expose himself to, so as to minimise the risk of exacerbation of his disease and production of symptoms, and to a lesser degree, the influence of his trajectory of deterioration.

As Mr [REDACTED]'s underlying conditions are permanent and progressive, limitation in physical activities and protection from his physical environment to reduce injury and exacerbation are permanent.

Restriction would therefore apply both in Mr [REDACTED]'s day to day domestic activities and any work that he might consider (as the disease process does not differentiate between work and play).

With regard to the lumbar spine, Mr [REDACTED] should not undertake activities that require him to bend forward, reach forward, push or pull objects, nor stoop to low levels. He should not lift, handle or carry objects beyond around 5kg in weight in his hands. He should avoid squatting down to low levels and particularly applying any force from a squatting position, lifting objects, pushing objects, and so on. (His knee arthropathy also impacts on these activities.)

He should pay attention to the type of furniture he sits in so that his seating position is of sufficient height that he can easily elevate himself with minimal strain in the lumbar region and hips.

With regard to the cervical spine, Mr [REDACTED] should reduce his need for upward gaze or wide-range rotation motion of the head and neck.

In combination with his right shoulder stiffness, Mr [REDACTED] should limit the need to elevate his arms and hands above shoulder height to undertake any activities, retrieve objects, and so on.

In general, Mr [REDACTED] should not climb ladders and take care on stairs (particularly going down) as his spatial awareness may be diminished by neck stiffness, increasing his risk of fall.

For the same reasons Mr [REDACTED] should take considerable care on traversing uneven broken, sloping or slippery ground surfaces to reduce his risk of fall and other injury.

Mr [REDACTED] is starting to develop some balance difficulties (age related) and so needs to pay particular attention to how he assesses the environment in which he finds himself to minimise risk factors.

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Mr [REDACTED] indicated that he was progressing to retirement, and had no particular plans to re-enter the workforce.

Should he wish to re-enter the workforce with his various musculoskeletal difficulties, he would be limited to work of a light nature such as in a controlled office environment where there was no to minimal physical requirement or perhaps light retail.

Hours of work may be restricted by self-reported pain symptoms and/or fatigue.

Mr [REDACTED]'s limitation in his general physical activity as well as any work that he might consider is due to his disease process and not to the effects of any specific "injury incident" that occurred during his work in the Ambulance Service.

**4. What further treatment or investigations are required in respect of his cervical and lumbar spine injuries?**

With regard to any of the "injury incidents" occurring through the course of his work, Mr [REDACTED] does not require any further specific investigations nor management. (The effects of these incidents having been absorbed into his more dominant degenerate disease process which will continue.)

**5. On the balance of probabilities, will there be any improvement in the claimant's condition if there are any changes implemented to his treatment regime (such as you may have identified above)?**

No. Mr [REDACTED]'s overarching condition is degenerate and progressive, and this disorder will continue through the remainder of his life. (Its effects, however, will need to be monitored and responded to from time to time with advice from his treating doctors.)

**6. The long-term prognosis, with particular emphasis on the likelihood of improvement in the claimant's condition and the claimant re-engaging in the labour market and maintaining any such position until retirement at age 67.**

As outlined above, Mr [REDACTED]'s condition is progressive around the regions of fusion in the cervical and lumbar regions, and thus his prognosis would be considered guarded if not poor (given the level of progression that he has demonstrated thus far).

His prognosis will also be influenced by the presence of disease and limitation in other musculoskeletal areas, as outlined above.

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Mr [REDACTED] is also starting to show some balance compromise and so geriatric components are likely to play a greater part in his reduced mobility in the coming years.

Given these factors, the likelihood of returning to the workforce is remote, and Mr [REDACTED] has already indicated that he is retiring.

- 7. What is the likelihood the claimant would have become incapacitated (totally or otherwise) for work at some stage in his life as a result of any injury to his cervical and lumbar spine? When, on balance, would that have occurred?**

Given the dominance of Mr [REDACTED]'s degenerate disease and the need for management over past years, with major interventions, and the minor workplace incidents as having no influence on the natural history of this process, it is likely that he would be in the same position that he is currently in irrespective of the workplace incidents. (He may have taken a different path.)

- 8. Is the claimant a suitable candidate for further rehabilitation efforts, vocational assessments or retraining?**

No.

Yours faithfully



**Dr James Powell**  
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