## 1 PATIENT INFORMATION

### 1 PATIENT DETAILS

| | |
|---|---|
| NAME | Dmitri A. Halvorsen |
| DOB | 02/11/1972 |
| AGE / SEX | 54 yrs / Male |
| MRN / PATIENT ID | SPN-61490 |
| DATE OF SERVICE | 08/05/2026 |
| PROVIDER | Aisha Bergström, MD |
| CREDENTIALS | MD, FRCS (Neurosurgery) |
| REFERRAL SOURCE | Primary care, 07/15/2026 — hand clumsiness and gait change |
| VISIT TYPE | Surgical Evaluation — new patient, cervical spine |
| CARE SETTING | Outpatient spine clinic, neurosurgery service |
| PRIMARY CARE PROVIDER | Northgate Medical Practice — Dr. L. Achebe |
| REFERRING SPECIALIST | None — direct primary care referral |

## CC CHIEF COMPLAINT

### 2 PRIMARY SPINE CONCERN

> "My hands have gone stupid. I'm a welder and I've started dropping my rods and I can't do the buttons on my own shirt. My wife says I walk like I've had a drink." — patient, describing 8 months of progressive hand dysfunction and gait change with relatively little neck pain.

## S SUBJECTIVE

### 3 SPINE SYMPTOMS, PRIOR TREATMENT & FUNCTIONAL IMPACT

### 3a REASON FOR EVALUATION & PAIN CHARACTERIZATION

**Reason for Spine / Back Pain Evaluation**

Surgical evaluation of **progressive cervical myelopathy**. Referred by primary care after 8 months of worsening hand function and 4 months of gait change, with MRI evidence of multilevel cervical cord compression. **He was not referred for**

**pain** — pain is the least of his complaints, which is characteristic and is the reason this presentation is frequently missed.

### Pain Location and Distribution

Axial posterior neck ache, midline and bilateral trapezius, mild and non-radiating, 3/10. **No dermatomal arm pain.** Bilateral hand numbness in a non-dermatomal glove distribution involving all fingers, worse in the left hand. Occasional band-like sensation across the upper chest. No low back, thoracic, or leg pain.

### Pain Onset and Course

Neck ache for 6 years, attributed to 28 years of overhead welding, previously intermittent and unremarkable. **Hand clumsiness began approximately 8 months ago** and has worsened steadily — first noticed when he stopped being able to pick up small washers, then buttons and shoelaces, then dropping welding rods two or three times a shift. **Gait change began about 4 months ago**: his wife noticed a wide-based unsteady walk, and he has stopped walking the dog on uneven ground. **No plateau at any point — the course is one of steady, uninterrupted progression.** No trauma, no inciting event.

### Pain Character and Severity

Neck: dull ache, 3/10 average, 5/10 worst, unchanged in 6 years and not the problem. **Hands: numb and clumsy rather than painful**, with an unpleasant tingling on neck flexion. No shooting or electric arm pain. Current pain score 3/10, best 2, worst 5 — and he was explicit that pain relief is not what he came for.

### Radicular / Neurologic Symptoms

**Bilateral hand clumsiness with loss of fine motor control — the dominant symptom.** Cannot fasten shirt buttons, cannot pick up coins, handwriting has deteriorated to illegibility, cannot use a phone touchscreen reliably. Bilateral hand numbness, worse on the left. **Gait imbalance with a wide-based walk, three trips in 4 months and one fall onto a knee 6 weeks ago without injury.** Difficulty on stairs, now holding the rail in both directions. Subjective leg heaviness and stiffness, worse in the evening. **Lhermitte-type electric sensation down the spine on neck flexion for 3 months** — volunteered spontaneously.

## 3b STENOSIS, MYELOPATHY & RED-FLAG SYMPTOMS

### Spinal Stenosis / Neurogenic Claudication Symptoms

**Absent** — and their absence is diagnostically useful. Walking distance is limited by balance rather than by leg pain, there is no relief on sitting or leaning forward, no shopping-cart sign, and no calf or buttock claudication. This is a cord problem, not lumbar canal stenosis.

### Myelopathy Symptoms

**Present and progressive across every domain:** hand clumsiness and dropping objects, loss of dexterity for buttons and coins, deteriorated handwriting, gait imbalance with three trips and one fall, subjective limb stiffness and heaviness, bilateral non-dermatomal hand numbness, and a positive Lhermitte phenomenon. Urinary urgency and hesitancy for 6 weeks with two episodes of not reaching the toilet in time — **disclosed only on direct questioning, having been attributed by the patient to his prostate.**

### Bowel / Bladder / Saddle Symptoms

**Urinary urgency and hesitancy for 6 weeks with two urge-incontinence episodes.** No retention, no overflow, no catheterisation. Bowel function normal with no incontinence or constipation. **No saddle or perineal numbness.** No erectile dysfunction. The urinary symptoms in this context are a myelopathic sign, not a urological one, and they materially change the urgency of surgical intervention.

### Functional Impact

**Occupationally decisive:** a welder of 28 years, currently on modified duties for 6 weeks after a near-miss when he dropped a hot rod, and his employer has raised a formal safety concern. Cannot perform overhead work. Driving restricted to short journeys — he reports difficulty judging pedal pressure and has stopped driving at night. Cannot fasten buttons, tie laces, or use small tools; his wife now helps him dress. Stopped his weekly five-a-side football in 02/2026 and his fishing in 05/2026. Sleep undisturbed. Mood affected — he became tearful discussing the possibility of never welding again.

## 3c PRIOR TREATMENT, MEDICATIONS & BACKGROUND HISTORY

### Prior Conservative Treatment

Eight physiotherapy sessions 03–05/2026 for "mechanical neck pain" including cervical mobilisation and traction — **no benefit, and his hand function deteriorated during the course.** Home exercise programme, adherent. Two chiropractic sessions 01/2026, discontinued by the patient because "the neck cracking made my hands buzz for hours afterwards" — in retrospect a warning sign. Soft collar bought privately, worn intermittently. Ergonomic assessment at work 04/2026. No acupuncture, no massage, no formal weight-loss programme required.

### Prior Interventional Treatment

**None.** No epidural steroid injection, no facet injection, no medial branch block, no radiofrequency ablation, no nerve block, no trigger point injection, no neuromodulation. No procedure has ever been offered.

### Medication History and Response

Paracetamol 1 g up to three times daily, minimal benefit. Ibuprofen 400 mg as needed, roughly twice weekly. **Amitriptyline 10 mg at night started 05/2026 for the hand numbness — no benefit**, and he stopped it after 4 weeks for morning grogginess. No opioids, ever. No muscle relaxant. No gabapentinoid trialled. No topical agents. **No anticoagulant or antiplatelet therapy.** Atorvastatin and ramipril for cardiovascular risk. Adherent to all prescribed medication.

### Surgical Spine History

**None.** No prior decompression, discectomy, laminectomy, fusion, hardware, vertebral augmentation, or implanted device. Right inguinal hernia repair 2016. No prior surgical recommendation for the spine.

### Relevant Medical History

Hypertension on ramipril, well controlled. Hypercholesterolaemia on atorvastatin. Ex-smoker — 20 pack-years, stopped 2019. BMI 27.8. **No diabetes, no osteoporosis, no cancer history, no immunosuppression, no inflammatory arthritis.** No anticoagulation. No prior serious infection. No known cervical instability, no inflammatory or congenital spinal condition. **Occupational exposure: 28 years of overhead arc welding with sustained cervical extension** — directly relevant to the degenerative pathology. No family history of spinal disease. Alcohol 10 units weekly. No recreational drug use.

### Recent Imaging / Testing

**Cervical MRI 07/28/2026 reviewed personally**: multilevel degenerative change with **cord compression at C4–C5 and C5–C6, most severe at C5–C6 where there is circumferential compression, effacement of cerebrospinal fluid, and an intramedullary T2 hyperintensity within the cord**; posterior disc-osteophyte complexes at both levels; mild C6–C7 change without compression; no ossification of the posterior longitudinal ligament; no tumour, no syrinx, no infection. **Cervical canal diameter 7.4 mm at C5–C6** (severe stenosis; normal above 13 mm). Cervical radiographs 07/28: loss of lordosis with a straightened alignment, no listhesis. **No flexion-extension films and no EMG or nerve conduction studies performed to date.** Brain MRI not performed.

### Pertinent Negatives

No fever, chills, night sweats, or unexplained weight loss. No cancer history, no IV drug use, no immunosuppression. **No saddle anaesthesia, no bowel dysfunction, no urinary retention.** No acute trauma, no whiplash event, no fall from height. No visual symptoms, no diplopia, no dysarthria, no dysphagia, no facial numbness — specifically sought to exclude an intracranial or brainstem cause. No dyspnoea. No thoracic band pain of radicular type. No rest or night pain suggesting malignancy or infection.

## ROS SPINE / BACK PAIN REVIEW OF SYSTEMS

### 4 PERTINENT POSITIVES & NEGATIVES

| | |
|---|---|
| Axial pain | **Mildly positive — neck ache 3/10, 6 years, unchanged. Negative for thoracic, low back, or sacral pain** |
| Limb symptoms | **Positive — bilateral non-dermatomal hand numbness and clumsiness, leg heaviness. Negative for dermatomal arm** |

| | |
|---|---|
| | **pain, sciatica** |
| Gait / coordination | **Positive — wide-based unsteady gait, 3 trips, 1 fall, stair-rail dependence, hand clumsiness, no foot drop** |
| Sphincter | **Positive — 6 weeks of urinary urgency and hesitancy with 2 urge-incontinence episodes. Negative for retention, bowel dysfunction, saddle anaesthesia** |
| Red flags for infection / malignancy | **Negative — no fever, chills, night sweats, weight loss, night pain, cancer history, or IV drug use** |
| Cranial / brainstem | **Negative — no visual change, diplopia, dysarthria, dysphagia, or facial numbness (sought to exclude intracranial cause)** |
| Medication | **Negative for opioid use or side effects; amitriptyline stopped for grogginess without benefit; no anticoagulant or antiplatelet therapy** |
| Function / work | **Positive — welder on modified duties with an employer safety concern; cannot button, tie laces, or work overhead; driving restricted** |

## O OBJECTIVE

### 5 OBSERVED FINDINGS

### V VITALS

| | |
|---|---|
| TEMPERATURE<br>**36.5°C** | BLOOD PRESSURE<br>**138/84 mmHg** |
| HEART RATE<br>**68 bpm** | RESPIRATORY RATE<br>**14 / min** |
| OXYGEN SATURATION<br>**98% room air** | HEIGHT<br>**181 cm** |
| WEIGHT<br>**91 kg** | BMI<br>**27.8 kg/m²** |

PAIN SCORE

**3/10 neck; the deficit, not the pain, is the clinical problem**

### 5a FOCUSED MUSCULOSKELETAL & NEUROLOGIC EXAMINATION

**General Appearance**

Well-built man, comfortable at rest, in no distress. No assistive device but **steadied himself on the desk when rising and turning.** Not in a collar today. Cooperative and precise in his account. Visibly distressed when discussing his work.

**Inspection / Posture**

**Loss of cervical lordosis with a mildly protracted head-forward posture**, corresponding to the radiographic straightening. Shoulders level, no winging. **Visible intrinsic hand muscle wasting bilaterally — first dorsal interosseous and thenar eminence, more marked on the left**, with early guttering between the metacarpals. No scoliosis, kyphosis, or

pelvic tilt. No scars, no skin change, no swelling, no fasciculation observed.

### Gait

**Wide-based, cautious, mildly spastic gait with reduced stride length and reduced arm swing.** Turns are en bloc and hesitant. **Tandem gait: 3 steps before losing balance** and requiring support. Heel and toe walking both intact bilaterally — no focal foot drop. Romberg negative. Single-leg stance under 3 seconds bilaterally. **Timed 10-metre walk 12.4 seconds with 21 steps** (normal for age approximately 8 seconds, 16–18 steps). No antalgia, no Trendelenburg.

### Range of Motion

Cervical flexion 40°, extension 30° and mildly uncomfortable, rotation 60° right and 55° left, lateral flexion 30° bilaterally — globally reduced by roughly a third. **Cervical flexion reproduces an electric sensation down the spine and into both arms (Lhermitte sign positive).** Thoracic and lumbar movement full and painless. Shoulder and hip range of motion full and painless bilaterally, excluding a peripheral joint cause.

### Palpation

Mild diffuse midline and paraspinal cervical tenderness at C5–C7 without focal bony point tenderness or step-off. Bilateral trapezius tightness. **No spinous process percussion tenderness** — relevant to excluding infection or fracture. No lumbar, sacroiliac, or sciatic notch tenderness. No warmth, swelling, or allodynia.

### Motor Examination

**Upper limbs:** shoulder abduction 5/5, elbow flexion 5/5, elbow extension 4+/5 bilaterally, wrist extension 4+/5, **finger abduction 3+/5 left and 4/5 right, finger flexion 4/5 bilaterally, thumb opposition 4/5 with measurable intrinsic wasting.** Grip strength by dynamometer **18 kg left and 24 kg right** (expected 45–50 kg for age and build). **Lower limbs:** hip flexion 5/5, knee extension 5/5, ankle dorsiflexion 5/5, plantarflexion 5/5 — full power but with **increased tone and a catch at both knees and ankles. Grip-and-release test: 12 cycles in 10 seconds** (normal above 20) — an objective myelopathy measure.

### Sensory Examination

**Reduced light touch and pinprick in a non-dermatomal glove distribution to the mid-forearm bilaterally, worse on the left.** Impaired two-point discrimination and stereognosis in both hands — he could not identify a coin by touch with either hand. **Proprioception at the fingers impaired bilaterally; vibration reduced at both ankles and at the fingers.** Sensation intact in the trunk and legs with no sensory level. **Perineal and perianal sensation intact.** No dermatomal pattern in either limb.

### Reflexes

**Hyperreflexia throughout: biceps 3+, triceps 3+, supinator 3+ with an inverted supinator reflex, knee 3+, ankle 3+ bilaterally. Hoffmann sign positive bilaterally. Babinski sign upgoing bilaterally. Sustained clonus of 5 beats at both ankles. Positive scapulohumeral reflex.** Jaw jerk normal — important, as an abnormal jaw jerk would point above the foramen magnum. No abdominal reflex asymmetry.

### Special Tests

**Lhermitte sign positive.** Spurling test negative bilaterally — consistent with the absence of radicular arm pain. Straight leg raise negative bilaterally at 80°. Slump test negative. Femoral stretch negative. Facet loading negative. FABER, FADIR, Gaenslen, and thigh thrust all negative. **Adson and Roos tests negative**, excluding thoracic outlet syndrome. **Tinel and Phalen negative at both wrists and both elbows** — specifically performed, because bilateral hand numbness with wasting invites a peripheral entrapment diagnosis, and its exclusion here is important.

### Neurologic / Safety Findings

Alert, fully oriented, cognitively intact. Cranial nerves II–XII normal with no nystagmus, dysarthria, or facial asymmetry. **Finger-nose testing impaired bilaterally, attributable to proprioceptive loss rather than cerebellar dysfunction; heel-shin normal. Modified Japanese Orthopaedic Association score 11 of 18 — moderate-to-severe myelopathy. Nurick grade 3. Gait and hand function are both unsafe for his occupation and represent an established fall and injury risk.** No cauda equina features. No respiratory compromise.

## RS SPINE REGION-SPECIFIC EXAMINATION

### 6 REGION-SPECIFIC FINDINGS

#### Cervical Spine

Range of motion globally reduced by a third with **positive Lhermitte sign on flexion**. Mild C5–C7 paraspinal and trapezius tenderness without focal bony tenderness. **Spurling negative bilaterally.** Upper limb power reduced distally with bilateral intrinsic hand wasting; grip 18 kg left and 24 kg right; grip-and-release 12 in 10 seconds. Non-dermatomal glove sensory loss with impaired proprioception and stereognosis. **Hoffmann positive bilaterally, inverted supinator reflex, upper limb hyperreflexia 3+, positive scapulohumeral reflex.** Hand function unsafe for tool use.

#### Thoracic Spine

No midline or paraspinal tenderness. No deformity, no rib pain, no kyphosis beyond normal. **No sensory level and no thoracic band of radicular type** — specifically sought, as a thoracic cord lesion would alter the operative plan entirely. No trauma-related finding.

#### Lumbar Spine

Full painless range of motion. No midline, paraspinal, or facet tenderness. Negative straight leg raise bilaterally. **Lower limb power full at 5/5 throughout with increased tone, brisk reflexes, upgoing plantars, and ankle clonus — long-tract signs from the cervical lesion, not lumbar pathology.** No neurogenic claudication. The legs are affected by a cord lesion, not a root lesion.

#### Sacroiliac / Pelvic Region

No sacroiliac tenderness. FABER, Gaenslen, compression-distraction, and thigh thrust all negative. Fortin finger test negative. Pelvis level, no asymmetry. Hip range of motion full and painless, excluding a hip contribution to the gait abnormality.

## PO POST-PROCEDURE / POST-OPERATIVE EXAMINATION

### 7 PROCEDURE OR SURGICAL SITE FINDINGS

PROCEDURE OR SURGERY PERFORMED AND DATE

**None — no prior spinal procedure or surgery of any kind. This is a pre-operative assessment**

INCISION OR INJECTION SITE LOCATION

**Not applicable — no prior incision or injection site**

HARDWARE / DEVICE SITE FINDINGS

**None — no implanted hardware or device**

NEUROLOGIC STATUS — PRE-OPERATIVE BASELINE

**Documented in full today as the operative baseline: mJOA 11/18, Nurick 3, grip 18/24 kg, grip-and-release 12/10 s, tandem 3 steps, 10-metre walk 12.4 s / 21 steps**

ADVERSE EFFECTS OR COMPLICATIONS

**None — no prior intervention to have caused any**

ACTIVITY RESTRICTIONS AND RECOVERY STATUS

**Restrictions imposed today pending surgery — no overhead welding, no work at height, no ladders, no heavy lifting, no contact sport, and avoidance of cervical extension and any manipulation**

## FA PAIN AND FUNCTIONAL ASSESSMENT TOOLS

### 8 SPINE-SPECIFIC MEASURES USED

MODIFIED JAPANESE ORTHOPAEDIC ASSOCIATION SCORE

**11 / 18 — moderate-to-severe cervical myelopathy (motor upper 2, motor lower 5, sensory 2, bladder 2). The primary outcome measure for this condition**

NURICK GRADE

**3 — gait abnormality preventing full-time employment**

NECK DISABILITY INDEX

**52% — severe disability, driven by lifting, work, and personal care rather than by pain**

NUMERIC PAIN RATING SCALE

**3/10 neck, 5/10 worst — deliberately noted as low; pain is not the indication for surgery here**

GRIP STRENGTH (DYNAMOMETER)

**Left 18 kg, right 24 kg against an expected 45–50 kg — objective, repeatable, and the marker to follow post-operatively**

GRIP-AND-RELEASE TEST

**12 cycles in 10 seconds (normal above 20) — objective myelopathic hand dysfunction**

TIMED 10-METRE WALK / TANDEM GAIT

**12.4 s and 21 steps (normal approximately 8 s, 16–18 steps); tandem gait 3 steps before loss of balance**

PROMIS PAIN INTERFERENCE / PEG

**PROMIS T-score 54; PEG 3.7 — both modest, consistent with a deficit-dominant rather than pain-dominant presentation**

OSWESTRY DISABILITY INDEX / ROLAND-MORRIS / QUEBEC

**Not applied — lumbar instruments are not valid for a cervical myelopathic presentation**

PHQ-9 / GAD-7

**PHQ-9 11 (moderate) and GAD-7 12 (moderate) — both new, and both centred on the threat to his occupation and independence**

WORK STATUS / FUNCTIONAL CAPACITY

**Modified duties for 6 weeks with an employer safety concern raised. Cannot weld overhead, cannot handle small tools, driving restricted, dependent on his wife for dressing**

SCORE INTERPRETATION AND GOALS

**The instruments agree and point in one direction: a mJOA of 11 with a Nurick 3, severe NDI, objectively reduced grip and gait metrics, and a low pain score describe a surgical myelopathy, not a pain syndrome. Goals: halt progression first, then recover hand dexterity and gait safety, then return to skilled work if achievable**

## L LABORATORY AND DIAGNOSTIC RESULTS

### 9 RESULTS REVIEWED OR ORDERED

**Imaging — reviewed personally**

**Cervical MRI 07/28/2026:** multilevel degenerative disc disease with posterior disc-osteophyte complexes. **Severe cord compression at C4–C5 and C5–C6, worst at C5–C6 with circumferential compression, complete effacement of cerebrospinal fluid, canal diameter 7.4 mm, and an intramedullary T2 hyperintensity at the level of maximal compression.** Mild C6–C7 change without compression; C3–C4 mild without compression. **No ossification of the posterior longitudinal ligament, no syrinx, no intramedullary tumour, no infection, no epidural collection.** Cervical radiographs 07/28: loss of lordosis with straightened alignment, no listhesis, disc height loss at C4–C6. **Ordered today:** standing flexion-extension cervical radiographs to assess dynamic instability and confirm whether the alignment is correctable — this determines an anterior versus posterior approach; cervical CT to characterise the osteophytes, facet anatomy, and bone quality for instrumentation; and **whole-spine MRI screening sequences** to exclude a concurrent

thoracic cord lesion, since the leg signs are long-tract and a second compressive level would change the operative plan.

### Electrodiagnostic Testing

**EMG and nerve conduction studies ordered** — never performed. Not to confirm the myelopathy, which is clinically and radiologically established, but to exclude a superimposed peripheral process: bilateral carpal tunnel syndrome, ulnar neuropathy, and cervical radiculopathy at the wasting levels. **Motor neuron disease deserves explicit consideration** in a 54-year-old with bilateral intrinsic hand wasting and hyperreflexia; against it are the clear sensory involvement, the positive Lhermitte sign, the sphincter symptoms, and imaging that fully explains the picture, but the absence of fasciculation should be confirmed electrophysiologically before a fusion is performed.

### Laboratory Studies — 08/05/2026

Complete blood count normal, white cells 6.2. **ESR 9 mm/hr and CRP 2 mg/L — normal, arguing strongly against discitis, epidural abscess, or inflammatory arthropathy.** Creatinine 0.94 mg/dL, eGFR above 60. Liver enzymes normal. HbA1c 5.6% — no diabetes, so no diabetic contribution to the neuropathic findings and no glycaemic barrier to surgery. **Vitamin B12 296 pg/mL with normal folate** — low-normal and deliberately noted, since B12 deficiency causes a subacute combined degeneration that mimics myelopathy; methylmalonic acid sent to resolve it. Thyroid function, calcium, and vitamin D normal. Serum protein electrophoresis normal. **Coagulation normal with no antiplatelet or anticoagulant therapy — no peri-operative hold required.** Group and save sent.

### Procedure Reports Reviewed

None exist — no prior injection, ablation, operative, or implant record. Physiotherapy discharge summary 05/2026 documenting **no benefit and deterioration in hand function during cervical mobilisation and traction**, which is itself informative.

### Bone Health / Fracture Workup

No fracture, no osteoporosis risk factors beyond age and past smoking. DEXA not previously performed; **ordered pre-operatively** since instrumented fusion is planned and screw purchase depends on bone quality. Vitamin D and calcium normal. No vertebral compression fracture on any imaging.

### Prior Records Reviewed

Primary care record 2019 to date, including the documented 6-year history of neck ache and, importantly, **a note from 12/2025 recording "dropping things" that was not acted upon**. Physiotherapy notes 03–05/2026. Occupational health assessment 04/2026 and the employer's safety concern letter 06/2026. All imaging reports and the images themselves. Cardiovascular risk review 05/2026. No prior neurosurgical or orthopedic spine contact.

## A ASSESSMENT

### 10 SPINE & BACK PAIN CLINICAL INTERPRETATION

- **Degenerative cervical myelopathy secondary to multilevel spondylotic cord compression at C4–C5 and C5–C6, moderate-to-severe (mJOA 11/18, Nurick 3), progressive over 8 months without plateau, now with sphincter involvement and an intramedullary T2 signal change. This is a surgical diagnosis, and the question at this visit is not whether to operate but how soon and by which approach.**
- **The clinical and radiological pictures correspond exactly, which is not always the case and here removes diagnostic doubt.** Severe compression at C5–C6 with a canal of 7.4 mm and cerebrospinal fluid effacement, matched by upper limb hyperreflexia, a bilateral Hoffmann sign, an inverted supinator reflex, upgoing plantars, ankle clonus, glove sensory loss with proprioceptive impairment, and a positive Lhermitte sign. Every long-tract sign present is explained by this lesion.
- **Three features together establish urgency:** uninterrupted progression over 8 months with no plateau; **new sphincter involvement in the past 6 weeks**, which the patient attributed to his prostate and which represents ascending cord dysfunction; and **intramedullary T2 hyperintensity**, which indicates established cord signal

change and is associated with a poorer recovery the longer it persists. Progression, sphincter involvement, and cord signal change in combination make this a matter of weeks, not months.

- **Non-operative management is not a reasonable option and has already been tried and failed harmfully.** Eight physiotherapy sessions including cervical mobilisation and traction produced no benefit and coincided with deterioration in hand function, and the chiropractic manipulation reproducibly provoked paraesthesia. **Cervical manipulation in severe cord compression carries a real risk of acute deterioration and is now formally contraindicated for this patient**, in writing.
- **The natural history argument should be stated plainly to the patient:** myelopathy at this severity does not spontaneously improve, deterioration is often stepwise and unpredictable, and a minor hyperextension injury — a trip, a fall, a road traffic collision — in a 7.4 mm canal can cause acute central cord syndrome. **The purpose of surgery is primarily to halt progression and prevent catastrophic injury; functional recovery is a secondary and less certain benefit, and pain relief is not the aim at all.** He must understand this before consenting.
- **Approach considerations, pending the flexion-extension films and CT:** two-level compression with kyphotic straightening and anterior disc-osteophyte disease favours an **anterior cervical discectomy and fusion at C4–C5 and C5–C6**, which directly addresses the anterior pathology and restores lordosis. If the flexion-extension films show a fixed non-correctable kyphosis, or if the CT shows more extensive posterior compression than the MRI suggests, a posterior laminectomy and fusion or a laminoplasty becomes preferable. **The decision belongs to the imaging, not to preference, and should not be presented to the patient as settled before those studies return.**
- **Differential diagnoses that must be formally excluded before an irreversible fusion: motor neuron disease** — bilateral intrinsic wasting with hyperreflexia demands the thought, but the sensory loss, Lhermitte sign, sphincter symptoms, and fully explanatory imaging argue against it, and electrodiagnostic studies will confirm the absence of widespread denervation; **B12 deficiency with subacute combined degeneration** — B12 is low-normal at 296 and methylmalonic acid is pending, a cheap test that would be embarrassing to skip; **bilateral peripheral entrapment** — Tinel and Phalen negative at both wrists and elbows, but electrodiagnostic exclusion is prudent given the wasting; **a concurrent thoracic cord lesion** — whole-spine screening ordered, since a second compressive level would render a cervical-only decompression inadequate; and **demyelinating disease** — unlikely at 54 with this imaging and no relapsing history, but the whole-spine sequences will contribute.
- **A missed opportunity is documented for the record and for learning:** the primary care note of 12/2025 records “dropping things” and no examination or referral followed, and the 03–05/2026 physiotherapy episode treated this as mechanical neck pain. **Hand clumsiness plus gait change is a myelopathy screen, not a physiotherapy referral**, and eight months of cord compression have been lost. This affects prognosis and should be acknowledged honestly to him.
- **Occupational and safety dimension:** a welder of 28 years with grip strength at 40% of expected, 12 grip-and-release cycles in 10 seconds, impaired stereognosis, a wide-based gait, three trips and a fall, and driving difficulty. **Overhead welding and work at height are unsafe today**, and his employer’s safety concern is legitimate rather than obstructive. Realistic occupational prognosis is uncertain and depends on hand recovery, which the T2 signal change makes less predictable; he needs honesty about that rather than reassurance.
- **Psychological impact is significant, new, and under-addressed:** PHQ-9 11 and GAD-7 12, tearful in consultation, facing the possible loss of a skilled trade and current dependence on his wife for dressing. This is proportionate distress rather than psychiatric illness, but it will affect how he hears the consent discussion and how he engages with rehabilitation, and it needs support alongside the surgical pathway.
- **Fitness for surgery is favourable:** 54 years old, ex-smoker of 7 years, no diabetes, controlled hypertension, normal renal and hepatic function, no anticoagulation, BMI 27.8, normal inflammatory markers, and no contraindication identified. He is a good operative candidate and this should be said, because it is the one part of today’s news that is straightforwardly reassuring.

## P PLAN

## 11 SPINE & BACK PAIN MANAGEMENT BY PROBLEM

- **Surgical decision — the substance of this visit: surgical decompression is indicated and has been recommended today.** Provisional plan is **anterior cervical discectomy and fusion at C4–C5 and C5–C6**, with the approach to be confirmed once the flexion-extension films and CT return. **Listed as urgent-elective with a target date within 3–4 weeks.** The patient was told plainly that the primary aim is to halt progression and prevent catastrophic injury, that hand and gait recovery are likely but neither guaranteed nor complete, and that pain relief is not the objective. He understood and wishes to proceed.
- **Pre-operative imaging and investigations, all ordered today with results required before the operating list:** standing flexion-extension cervical radiographs for dynamic instability and alignment correctability; cervical CT for osteophyte, facet, and bone-quality assessment; whole-spine MRI screening sequences to exclude a concurrent thoracic lesion; EMG and nerve conduction studies to exclude superimposed peripheral neuropathy and, importantly, motor neuron disease; **methylmalonic acid to resolve the low-normal B12 of 296**; DEXA for instrumentation planning; group and save, EKG, and chest radiograph; anaesthetic pre-assessment.
- **Activity restrictions imposed today, in writing, effective immediately: no cervical manipulation of any kind and no cervical traction — formally contraindicated**, with the physiotherapist and chiropractor both notified directly. No overhead welding, no work at height, no ladders. No lifting above 5 kg. No contact sport, no cycling, no diving or jumping into water. Avoid sustained cervical extension. **Driving: he has agreed to stop driving entirely until reviewed post-operatively**, given impaired proprioception, difficulty judging pedal pressure, and the risk in a 7.4 mm canal; the licensing authority notification requirement was explained and a letter provided.
- **Occupational management:** occupational health referral sent today. **Certified unfit for welding, overhead work, and work at height** with immediate effect — a formal letter issued to him and, with consent, to his employer, which converts the employer's safety concern into a documented medical restriction and protects both parties. Redeployment to a supervisory or ground-level non-manual role requested pending surgery. Statutory sick pay and income protection signposted. **Realistic return-to-work discussion held honestly:** a minimum of 3 months off after fusion, skilled hand work dependent on dexterity recovery, and retraining a genuine possibility that should be explored early rather than late.
- **Falls and injury prevention — acted on today:** occupational therapy home assessment requested for grab rails, stair lighting, and removal of loose rugs. Bathroom aids and a shower chair arranged. **Advised to use the stair rail with both hands and to avoid stairs when alone.** Physiotherapy re-referred for **balance and gait work only — explicitly no cervical mobilisation or traction**, the referral wording checked to prevent recurrence of the previous error. Dressing aids and button hooks provided today, which will help immediately and preserve dignity.
- **Symptom management in the interim:** continue regular paracetamol. Ibuprofen as needed short-term, to be **stopped 5 days pre-operatively**. **Trial of pregabalin 25 mg at night, titrated to 75 mg twice daily** for the neuropathic hand symptoms — a gabapentinoid has never been tried and amitriptyline failed for grogginess rather than through class failure. No opioids: they will not help this deficit and carry no benefit here. Soft collar discouraged for routine use — it does not protect the cord and promotes deconditioning.
- **Consent process:** risks discussed in full and to be revisited at the pre-operative visit with written information — dysphagia, hoarseness from recurrent laryngeal nerve injury, cerebrospinal fluid leak, infection, bleeding, non-union or pseudarthrosis, adjacent segment disease, hardware failure, and the small but serious risks of neurological worsening and of C5 palsy. **The realistic outcome was framed as: progression halted in the large majority, meaningful hand and gait improvement in roughly two-thirds, and the cord T2 signal change and 8-month duration both tempering the expectation of full recovery.** His wife to attend the consent visit at his request.
- **Medical optimisation:** continue ramipril and atorvastatin. Confirm sustained smoking abstinence — nicotine impairs fusion and he was congratulated on 7 years and warned specifically against relapse under stress. Optimise vitamin D and protein intake for fusion. Dental review requested pre-operatively. No diabetes to optimise. No anticoagulation to manage.
- **Psychological support:** PHQ-9 11 and GAD-7 12 acknowledged openly rather than filed. **Referral to the clinical health psychology service accepted**, framed around occupational loss and adjustment rather than pathology. Not started on an antidepressant today — the distress is situational and a psychological approach is the right first step. To be rescored at the pre-operative visit and after surgery.

- **Referral and coordination, all sent today:** anaesthetics; occupational health; occupational therapy; physiotherapy with the restriction wording specified; clinical health psychology; neurophysiology for electrodiagnostic studies; radiology for CT, flexion-extension films, whole-spine MRI, and DEXA. Letters to primary care and, with consent, directly to the treating physiotherapist and chiropractor stating the manipulation contraindication. **Named spinal clinical nurse specialist assigned as the family's point of contact** with a direct number.
- **Red flags given verbally and in writing, with the reasoning explained:** attend the emergency department immediately for sudden worsening of hand or leg weakness, inability to walk, urinary retention or inability to pass urine, new saddle or perineal numbness, or any neurological change after a fall or neck injury however minor. Contact the nurse specialist the same day for gradual worsening of weakness, new falls, or worsening bladder symptoms. He and his wife repeated these back accurately.

## F FOLLOW-UP

### 12 REASSESSMENT PLAN

#### Follow-up timeframe and purpose

**Within 7–10 days:** flexion-extension radiographs, cervical CT, whole-spine MRI screening, EMG and nerve conduction studies, DEXA, and methylmalonic acid all completed; occupational therapy home assessment; dressing aids in use. **Two weeks:** pre-operative clinic with all results — approach confirmed, consent completed with his wife present, mJOA, NDI, grip strength, grip-and-release, and timed walk all rescored as the definitive operative baseline, and PHQ-9 and GAD-7 repeated. **Three to four weeks:** surgery. **Post-operatively:** neurological examination day 1 and at discharge; review at 2 weeks for wound and swallowing assessment; 6 weeks with radiographs and mJOA, grip, and gait metrics; 3 months with radiographs and a return-to-work assessment; 6 and 12 months with fusion assessment and outcome scoring. Physiotherapy for balance and gait continues throughout, without cervical mobilisation. Psychology within 4 weeks. Driving reassessed at the 6-week review. **Emergency department immediately** for acute neurological deterioration, urinary retention, saddle numbness, or any deficit following even minor neck trauma.

## TB TIME DOCUMENTATION & BILLING

**TOTAL TIME SPENT**

84 minutes

**COUNSELING / COORDINATION OF CARE TIME**

29 minutes — natural history, surgical rationale and realistic outcome, driving cessation, occupational restriction, red flags

**RECORDS REVIEW TIME**

15 minutes — primary care record including the 12/2025 entry, physiotherapy notes, occupational health assessment, employer letter

**IMAGING REVIEW TIME**

18 minutes — cervical MRI and radiographs reviewed image by image with canal measurement, not by report

**PROCEDURE PLANNING TIME**

12 minutes — approach planning, level selection, instrumentation and bone-quality considerations

**MEDICATION MANAGEMENT TIME**

6 minutes — pregabalin initiation and titration, NSAID pre-operative hold, opioid avoidance rationale

**E/M LEVEL**

99205 — new patient, high-complexity medical decision making: acute or chronic illness posing a threat to bodily function, extensive independent interpretation of imaging, and a decision regarding major elective surgery

**PROCEDURE CODE(S)**

None today. Planned: 22551 anterior cervical discectomy and fusion, single interspace, with 22552 for the additional interspace, plus 20930/20936 allograft or autograft and 22845 anterior instrumentation, as applicable

**IMAGING GUIDANCE CODE(S)**

None today — intra-operative fluoroscopy to be coded with the procedure

**DIAGNOSTIC TEST INTERPRETATION CODE(S)**

Independent interpretation of cervical MRI and radiographs documented; formal reporting by radiology

**BASIS FOR BILLING**

Medical Decision Making — high complexity, with independent image interpretation and a major surgical decision; time also documented

**PRIMARY ICD-10**

M47.12 — Other spondylosis with myelopathy, cervical region

**SECONDARY ICD-10**

M50.021 cervical disc disorder at C4–C5 level with myelopathy; M50.022 cervical disc disorder at C5–C6 level with myelopathy; M62.581 muscle wasting and atrophy, other site; R26.2 difficulty in walking; R27.8 other lack of coordination; N39.41 urge incontinence; R29.2 abnormal reflex; F43.21 adjustment disorder with depressed mood; Z57.8 occupational exposure to other risk factors; Z87.891 personal history of nicotine dependence

## SO PROVIDER SIGN-OFF

| PROVIDER NAME | CREDENTIALS | SPECIALTY | DATE | TIME |
|---|---|---|---|---|
| Aisha Bergström, MD | MD, FRCS (Neurosurgery) | Spine Surgery / Neurosurgery | 08/05/2026 | 10:52 AM |