1 Patient Information

1 PATIENT DETAILS

Name
Patricia L. Nwosu

Date of Service
05/06/2026

DOB
02/19/1965

Provider
Dr. Kevin J. Marsh, MD — Neurospine Surgery

Age / Sex
61 / Female

MRN
NS-2026-0822

Visit Type
Initial Consultation — Surgical Evaluation

Spine Region / Level
Cervical — C5–C6, C6–C7

CC Chief Complaint

2 PRIMARY SPINE-RELATED CONCERN

Patient presents for surgical consultation with a 14-month history of progressive bilateral hand clumsiness, bilateral upper extremity numbness and tingling, neck pain radiating into both arms, and worsening gait unsteadiness. She states: 'I used to be able to button my blouse and type without thinking — now both hands shake and I drop things constantly. I've fallen twice in the past month. My neurologist says my spinal cord is being compressed and I need surgery.' She was referred by her neurologist Dr. Sandra Okafor, MD, following MRI findings and progressive neurologic decline over the past 6 weeks.

S Subjective

3 PATIENT-REPORTED SPINE & NEUROLOGIC SYMPTOMS

3a ONSET & CONTEXT

Gradual-onset bilateral cervical radiculopathy with superimposed myelopathy. Neck pain and upper extremity symptoms began approximately 3 years ago — attributed to cervical spondylosis. She was initially managed conservatively (PT, NSAIDs, cervical epidural steroid injections x2 in 2024). Over the past 14 months, she developed progressive bilateral hand dysfunction — initially intermittent, now constant. Over the past 6 weeks, she has had rapid escalation: two falls (one causing right wrist contusion, one causing left knee bruising), significant gait instability especially on stairs and in the dark, and worsening fine motor dysfunction. No trauma precipitating the acute worsening. No prior cervical surgery.

3b PAIN LOCATION & RADIATION

PRIMARY PAIN: Axial neck pain — bilateral posterior cervical, radiating to bilateral trapezii and posterior occipital region; rated 5/10 average, 8/10 worst (with prolonged sitting at computer). RIGHT ARM: Pain and paresthesias radiating from neck to right shoulder, lateral forearm, and into the right thumb and index finger (C6 distribution). LEFT ARM: Pain and paresthesias radiating to left shoulder, forearm, and into left ring and small finger (C7–C8 distribution). Both upper extremity symptoms are constant. No current chest, abdominal, or lower extremity pain (neurogenic bladder concern assessed separately — see below).

3c NEUROLOGIC SYMPTOMS

HAND/UE: Bilateral fine motor dysfunction — buttoning, writing, typing, using keys, and handling coins increasingly impaired over 14 months; significantly worsened past 6 weeks. Bilateral grip weakness — cannot open jars; dropping objects 3–5 times/day. Bilateral diffuse hand numbness, worse at night. Electric shock-like sensation from neck to both arms with neck flexion (Lhermitte's sign — positive). GAIT: Progressive gait instability — wide-based gait developing over past 3 months; two falls in past month. Difficulty with stairs (uses railing mandatory). Worse in the dark (proprioceptive component). Feels legs are 'stiff' and 'heavy.' BLADDER: Urinary urgency and hesitancy developing over past 3 months — has had 2 episodes of urinary urgency incontinence; denies frank urinary retention.

3d PAIN CHARACTER & SEVERITY

Quality / Intensity
Axial neck pain: aching, stiff (5/10 average). Radicular: burning, electric, constant (6/10 bilateral UE)

Timing / Progression
Progressive over 14 months; acute-on-chronic escalation past 6 weeks

NRS Score (avg / worst)
Average: 6/10 combined. Worst: 9/10 with neck flexion or prolonged sitting

Functional Limitation
Severe — ADLs impaired, two falls, unable to perform fine motor work tasks

3e AGGRAVATING & RELIEVING FACTORS

Aggravating Factors
Neck flexion (computer work, reading), prolonged sitting, stairs, walking in the dark, carrying objects, cold weather (UE symptoms worse)

Relieving Factors
Supine position, cervical collar (moderate), ibuprofen (mild axial relief only), warm shower

3f PRIOR TREATMENT

Physical therapy x3 courses (2022, 2023, 2024) — transient improvement in axial pain, no effect on myelopathic symptoms. NSAIDs: ibuprofen 600 mg PRN, celecoxib 200 mg daily (current). Cervical ESIS x2 (C5–C6 interlaminar, 2024) — 4–6 months axial pain relief; no improvement in hand function or gait. Cervical soft collar: uses PRN at work. No prior cervical spine surgery. Neurology: Under care of Dr. Okafor — EMG/NCS performed (02/2026, see diagnostics).

3g FUNCTIONAL IMPACT

Retired high school principal, currently working part-time as an educational consultant (computer-based work). Typing has become nearly impossible — down to 20 WPM from 85 WPM one year ago. Unable to perform fine manual tasks (sewing, cooking involving fine cutting). Two falls in past month — no fractures but significant fear of falling. Uses handrail and cane on stairs. Does not drive on the highway due to grip and coordination concern. Sleep disrupted by bilateral arm numbness. Rating her quality of life as 4/10.

3h PERTINENT NEGATIVES

Denies complete urinary retention or bowel incontinence (has urgency — not retention). Denies fever, chills, or night sweats. Denies unexplained weight loss. Denies recent infection or IV drug use (no spinal infection concern). No malignancy history. No coagulopathy or anticoagulant use. Denies traumatic mechanism for acute worsening — progressive only. No dysphagia (important for anterior cervical approach consideration). Denies chest pain or dyspnea.

O Objective

4 MEASURABLE & OBSERVED NEUROSPINE FINDINGS

V VITAL SIGNS

Temperature
98.3°F

Blood Pressure
134/82 mmHg

Heart Rate
74 bpm

Respiratory Rate
14 breaths/min

Oxygen Saturation
98% on room air

Weight / BMI
172 lbs (78.2 kg) / BMI 28.6

Pain Score
6/10 neck + bilateral UE at rest; 9/10 with neck flexion

4a GENERAL APPEARANCE & SPINE INSPECTION

Alert, well-appearing female in moderate distress during neck flexion. Posture: Forward head posture with flattened cervical lordosis. Mild bilateral cervical paraspinal muscle spasm visible. Guarded cervical movement. Transfers from chair slowly and carefully. Uses cane in right hand. No surgical scars at cervical spine. No visible cervical deformity or kyphosis on inspection. Thoracic kyphosis mildly increased — age-appropriate.

4b PALPATION & RANGE OF MOTION

Midline Tenderness
C5, C6, C7 spinous processes — moderate tenderness, maximum at C5–C6

Paraspinal Tenderness
Bilateral cervical paraspinal tenderness, bilateral trapezius tightness/spasm

Step-Off / Spasm
No step-off. Bilateral moderate paraspinal spasm.

Cervical ROM
Flexion 30° (limited and pain-reproducing, Lhermitte's with flexion). Extension 20° (mildly limited). Lateral rotation 30° bilateral. Lateral flexion 20° bilateral. Normal is 45–60° for rotation/flexion.

4c MOTOR EXAMINATION

RIGHT UPPER EXTREMITY: Deltoid (C5) 4+/5. Biceps (C6) 4/5. Wrist extensors (C6) 4/5. Triceps (C7) 4/5. Wrist flexors (C7) 4/5. Hand intrinsics (T1) 3+/5 (most affected). RIGHT LOWER EXTREMITY: Hip flexors 4+/5. Quadriceps 4+/5. Tibialis anterior 5/5. Gastrocnemius 4+/5. LEFT UPPER EXTREMITY: Deltoid 4+/5. Biceps 4+/5. Wrist extensors 4/5. Triceps 4/5. Hand intrinsics 3+/5 (most affected, slightly worse right > left). LEFT LOWER EXTREMITY: Hip flexors 4+/5. Quadriceps 4+/5. Tibialis anterior 5/5. Gastrocnemius 4+/5. No acute asymmetric focal paralysis. Bilateral hand intrinsic weakness is the most significant finding (T1 myotome).

4d SENSORY EXAMINATION

RIGHT: Decreased light touch and pinprick at right thumb, index, and middle finger (C6 distribution). Decreased light touch right lateral forearm (C6). RIGHT LOWER EXTREMITY: Mildly decreased proprioception at right great toe. LEFT: Decreased light touch at left ring and small finger (C7–C8 distribution). LEFT LOWER EXTREMITY: Mildly decreased proprioception at left great toe. BILATERAL UPPER EXTREMITIES: Diffuse mild decrease in vibration sense (128Hz tuning fork) at bilateral wrists — consistent with cord-level involvement. No saddle anesthesia.

4e REFLEXES & PATHOLOGIC SIGNS

Deep Tendon Reflexes
Bilateral biceps (C5): 3+ (hyperreflexic — UMN). Bilateral brachioradialis (C6): 3+ hyperreflexic. Bilateral triceps (C7): 2+. Bilateral patellar: 3+ hyperreflexic. Bilateral Achilles: 3+ hyperreflexic. Bilateral clonus: positive (3 beats ankle clonus bilateral). UMN pattern throughout.

Plantar Response (Babinski)
Bilateral extensor — positive Babinski bilaterally. Highly confirmatory of upper motor neuron involvement (myelopathy).

Hoffmann Sign
POSITIVE bilaterally — right > left. Confirms upper motor neuron dysfunction at cervical cord level.

Myelopathic Gait / Tandem
Wide-based gait. Tandem gait: severely impaired — 2 steps before losing balance. Requires wall support for tandem gait attempt.

Heel / Toe Walking
Heel walking: impaired bilaterally (mild foot drop tendency). Toe walking: intact bilaterally.

Lhermitte Sign
Positive — electric shock radiating from neck to bilateral arms and trunk with cervical flexion.

4f PROVOCATIVE TESTS

Straight Leg Raise (L/R)
Negative bilaterally — no lower extremity radicular reproduction

Spurling Test
Positive bilaterally — right C6 distribution with right lateral neck flexion + compression; left C7–C8 with left lateral flexion + compression

Lhermitte Sign
Positive — see reflexes section

Femoral Stretch Test
Negative bilaterally

Jackson Compression Test
Positive bilateral — axial loading with slight lateral flexion reproduces bilateral upper extremity paresthesias

Distraction Test
Positive bilateral — relief of arm paresthesias with manual traction

L Lab & Imaging Results

5 SPINE-RELATED DIAGNOSTIC DATA

5a IMAGING STUDIES

MRI CERVICAL SPINE WITH AND WITHOUT CONTRAST (04/28/2026, Dr. Amanda Chen, Neuroradiology — referred by Dr. Okafor): C5–C6: Large central and right paracentral disc herniation with posterior osteophyte complex — SEVERE central canal stenosis (canal AP diameter 7.2 mm; normal >13 mm). Bilateral neural foraminal stenosis, right > left. CORD SIGNAL: T2 hyperintensity within the cervical spinal cord at C5–C6 level — intrinsic cord signal change (myelomalacia pattern), no enhancement on T1 post-contrast. C6–C7: Central disc herniation with posterior osteophyte bar — MODERATE-SEVERE central canal stenosis (canal 9.1 mm AP diameter). Cord compression present but less severe than C5–C6. No cord signal change at C6–C7. C4–C5 and C7–T1: Mild disc bulge with mild foraminal narrowing bilaterally — not stenotic; no cord contact. No epidural abscess or tumor. X-RAY CERVICAL SPINE (flexion-extension, 04/10/2026, per Dr. Okafor): No dynamic instability on flexion-extension films. Multilevel osteophyte formation C3–C7. Loss of normal cervical lordosis. No fracture or dislocation. No spondylolisthesis.

5b LABORATORY STUDIES

Pre-surgical labs ordered today: CBC: WBC 7.4, Hgb 12.8 (mild anemia — further eval), Plt 298 — adequate for surgery. CMP: WNL. PT/INR 1.0, aPTT 28 sec — normal coagulation. Type and Screen: Drawn (A–, antibody screen negative). ESR: 18 mm/hr (normal). CRP: 2.1 mg/L (normal) — no inflammatory or infectious etiology. Vitamin D 25-OH: 22 ng/mL (insufficient) — supplementation started. HbA1c: 5.8% (pre-diabetic — anesthesia awareness).

5c OTHER DIAGNOSTICS

EMG/NCS (02/14/2026, Dr. Marcus Hill, Neurology): Bilateral C6 and C7 radiculopathies confirmed — bilateral brachioradialis and extensor carpi radialis denervation potentials, reduced bilateral median CMAP. Bilateral median nerve sensory responses reduced amplitude (not absent) — mixed radiculopathy and early myelopathy pattern. No peripheral neuropathy. CERVICAL ESIM (not performed — standard injection response documented in 2024 notes, as above). mJOA SCORE (Modified Japanese Orthopaedic Association): 10/18 (moderate myelopathy — cutoffs: mild >14, moderate 9–14, severe <9). NURICK GRADE: 3 (able to walk with assistance). BONE DENSITY (DEXA, 2025): T-score spine -1.8 (osteopenia) — relevant for anterior cervical fusion considerations (cage subsidence risk).

A Assessment

6 NEUROSPINE CLINICAL INTERPRETATION

Ms. Patricia Nwosu is a 61-year-old woman presenting with MODERATE-SEVERE CERVICAL SPONDYLOTIC MYELOPATHY (CSM) at C5–C6 (primary) and C6–C7 (secondary), with the following findings confirming the diagnosis and supporting urgent surgical intervention: (1) CORD SIGNAL CHANGE at C5–C6 on MRI (T2 hyperintensity = myelomalacia) — the most critical finding. Cord signal change indicates irreversible cord injury is occurring; progression is expected without surgical decompression and further cord signal change may become permanent. (2) SEVERE C5–C6 stenosis (canal 7.2 mm), moderate-severe C6–C7 (9.1 mm). (3) Myelopathic examination: Bilateral hyperreflexia (3+), bilateral Babinski, bilateral Hoffmann sign, bilateral ankle clonus, tandem gait failure, Lhermitte sign. (4) Functional decline: mJOA 10 (moderate myelopathy), two falls, bilateral hand intrinsic weakness (3+/5), fine motor dysfunction, urinary urgency. (5) EMG/NCS: Bilateral C6 and C7 radiculopathies confirmed. (6) Acute-on-chronic progressive course — recent 6-week escalation of neurologic symptoms is an indication for urgent, not elective, surgical planning. SURGICAL CANDIDACY: Excellent. ACDF (Anterior Cervical Discectomy and Fusion) at C5–C6 and C6–C7 is the recommended approach given: two-level disease, cord compression worst anteriorly (disc/osteophyte), intact posterior elements, no significant kyphosis, and patient's age and functional demands. COMORBIDITY CONSIDERATIONS: Osteopenia (T-score -1.8) — supplementation initiated; cage design and instrumentation to account for subsidence risk. HbA1c 5.8% (pre-diabetes) — optimize perioperatively. Mild anemia — further workup ordered.

P Plan

7 NEUROSPINE MANAGEMENT

7a CONSERVATIVE TREATMENT

Conservative management is NOT appropriate as the primary treatment given: cord signal change on MRI, mJOA 10 (moderate myelopathy), two falls, progressive bilateral myelopathic signs (positive Babinski, Hoffmann, clonus), and acute-on-chronic escalation. Conservative therapy was already given an appropriate trial (3 years PT, 2 ESIS, NSAIDs) without halting progression. Symptom management pending surgery: Continue celecoxib 200 mg daily. Cervical soft collar PRN for acute pain relief. Fall prevention — home safety assessment ordered.

7b SURGICAL PLAN

PLANNED PROCEDURE: Anterior Cervical Discectomy and Fusion (ACDF) — C5–C6 and C6–C7 (two-level). APPROACH: Anterior. LATERALITY: Bilateral decompression at each level. COMPONENTS: Microscopic discectomy + posterior osteophyte resection at both levels; PEEK interbody cage with allograft bone graft (selected over autograft given osteopenia preference for larger footprint cage); anterior cervical plate C5–C7. Neuromonitoring (SSEP and MEP) to be used intraoperatively. Tentative surgery date: 05/19/2026 — OR booking requested today (urgent — not emergent, but warranting expedited scheduling). Pre-operative optimization: address anemia, optimize BP, vitamin D supplementation. Informed consent initiated today — full consent visit 05/12/2026.

7c ADDITIONAL WORKUP & PRE-OP CLEARANCE

Anesthesia pre-op consultation: Scheduled 05/12/2026 (Dr. Patricia Reyes, MD — Anesthesiology). Additional labs: Reticulocyte count, iron studies, B12, folate (mild anemia workup). Cardiology clearance: Referred to Dr. James Brown, MD (patient has hypertension + pre-DM + age 61 — intermediate cardiac risk for elective surgery; stress test may be required). Pulmonary function: Not required (no respiratory history). CT cervical spine without contrast: Ordered for detailed surgical planning — osteophyte extent and foraminal anatomy. Bone density report reviewed — Calcium 1200 mg + Vitamin D3 2000 IU supplementation initiated today; bisphosphonate discussion deferred until post-operative healing assessed.

7d NEUROLOGIC PRECAUTIONS & RED-FLAG COUNSELING

URGENT RETURN TO ER IF: (1) Sudden onset of complete arm or leg weakness or paralysis. (2) New or worsening urinary retention (unable to void). (3) Loss of bowel control. (4) Saddle anesthesia (new perineal numbness). (5) Acute worsening of balance with inability to ambulate. These represent potential signs of acute cord decompensation — patient and husband instructed clearly. Home safety: Area rugs removed, grab bars in shower (referral to OT for home safety evaluation placed), night light installed in hallway. No driving until neurologic status re-evaluated post-operatively.

7e COORDINATION & PATIENT EDUCATION

Coordinating with: Dr. Sandra Okafor (Neurology) — shared note sent with surgical plan; Dr. James Brown (Cardiology) for pre-op clearance. Urology referral placed for urinary urgency symptoms (cystoscopy/urodynamics to rule out concurrent bladder pathology — some symptoms may persist post-ACDF if bladder dysfunction has an independent component). Patient educated on: (1) Cervical myelopathy natural history — untreated, most patients worsen; surgery arrests and often reverses progression; (2) ACDF procedure and 2-level fusion — expected hospitalization 1–2 days; (3) Recovery: Activity restrictions 6–12 weeks (no heavy lifting, no contact sports); healing timeline 3–6 months; expected hand function improvement begins 6–12 weeks post-op; (4) Neurological recovery is not guaranteed for cord signal change (myelomalacia) — functional improvement is likely but degree of recovery depends on chronicity and severity. Both patient and husband expressed understanding.

F Follow-Up

8 REASSESSMENT PLAN

Follow-Up Schedule

CT cervical spine: 05/08/2026. Cardiology pre-op: 05/09/2026. Anesthesia pre-op + full consent: 05/12/2026. Surgery (tentative): 05/19/2026. Post-op Day 1 check at hospital. Post-op clinic visit: 05/26/2026 (1 week — wound check, neuro exam). 6-week post-op: 07/01/2026 (X-ray, mJOA reassessment, PT initiation). 3-month post-op: Functional reassessment + fusion status X-ray.

TIME DOCUMENTATION & BILLING

Total Time
68 minutes

E/M Level
99205 — New patient, high complexity

Counseling / Coordination Time
25 minutes

Basis for Billing
Medical Decision Making — High Complexity

Primary ICD-10 Code
M47.812 — Spondylosis with myelopathy, cervical region

Secondary ICD-10 Code(s)
M50.122 — Cervical disc degeneration with radiculopathy, mid-cervical region (C5–C7); M81.0 — Age-related osteoporosis; G99.2 — Myelopathy in diseases classified elsewhere

PROVIDER NAME	CREDENTIALS	DATE & TIME
Kevin J. Marsh, MD	MD — Neurospine Surgery | Fellowship-Trained Spine Surgery | Board Certified (ABNS)	05/06/2026, 2:30 PM