DISCLAIMER:

This is AI generated as a thinking tool. This is not an official TLC protocol. IT is simply designed to stimulate thought and is incomplete.

And much of this is covered in TLC's CE classes on strength and movement

Functional Assessment Battery Protocols

An Office Manual for Chiropractic Assessment,

Progress Tracking, and Patient Education

Draft v0.1

Core decades 30s–70s

For pilot implementation and community review

1. Introduction and System Overview

1.1 Purpose of This Manual

This manual defines a standardized set of functional assessments that any trained office assistant can administer, record, and help communicate in a chiropractic outpatient setting. The assessments are selected for their ability to serve three masters simultaneously: clinical decision-making, documentation for third-party payers and regulatory bodies, and research-grade data collection suitable for publication in indexed biomedical journals.

The system is designed to shift the burden of data collection from the chiropractor to trained assistants. The chiropractor's role is to interpret results, integrate them with the clinical picture, and make treatment decisions. This allows the doctor to spend clinical time on examination, treatment, and the higher-order patient conversations that only the doctor can have.

1.2 Design Principles

- **Assistant-first administration.** Every test is selected for safe, reliable delivery by a trained non-clinician. The doctor interprets; the assistant measures.
- **Dual-purpose data.** Every test has face validity for patient education, metric validity for insurance and regulatory documentation, and construct validity for research publication.
- **Monthly progress landmarks.** Re-assessment occurs every 30 days (or every 12 visits, whichever comes first), with visit-to-visit quick checks on a subset of metrics.
- **Decade-banded defaults, function-adjusted reality.** Protocols default by chronological decade, but the test battery adapts based on measured functional capacity on the first visit.
- **Simple equipment.** The core battery requires a hand dynamometer, a stopwatch (phone timer works), a standard armless chair, a wall, a yardstick, and marked floor distances. Optional add-ons are specified where relevant.
- **Templated communication.** Both verbatim scripts (for new staff) and talking-point guides (for experienced staff) are provided for every test and every major milestone.

1.3 What This Manual Does Not Cover

This manual covers functional assessment and patient-facing communication of results. It does not replace the doctor's clinical examination, imaging decisions, diagnosis, treatment planning, or informed consent processes. It also does not constitute medical advice to any individual patient; all clinical interpretation remains with the licensed doctor.

1.4 How to Use This Manual

Section 2 defines the core assessment battery — the tests every adult patient receives. Section 3 defines decade-specific additions and modifications for patients in their 30s, 40s, 50s, 60s, and 70s. Section 4 defines scenario-specific add-ons (chronic pain, acute pain, trauma history, failed prior treatment, etc.). Section 5 defines the re-assessment cadence. Section 6 defines documentation standards. Section 7 provides assistant training checklists and competency verification.

2. Core Assessment Battery

The following tests are administered to every new adult patient during the intake process. Total assistant time: approximately 15–18 minutes for the complete core battery. Patient-reported instruments are typically completed before the visit via tablet, portal, or paper.

2.1 Grip Strength (Hand Dynamometry)

Purpose: Grip strength is a well-established proxy for whole-body strength and neuromuscular integrity. It is predictive of all-cause mortality, cardiovascular events, recovery from illness and surgery, and functional independence in later life. It is the single highest-yield test in this battery for its time cost.

Equipment: Hydraulic hand dynamometer (Jamar or validated equivalent). Armless chair.

Patient positioning: Seated upright in an armless chair, feet flat on the floor. Shoulder adducted and in neutral rotation, elbow flexed to 90 degrees, forearm and wrist in neutral position. The dynamometer is supported lightly by the examiner to prevent dropping but not to stabilize the patient's grip.

Procedure: Three trials per hand, alternating between dominant and non-dominant, with at least 60 seconds of rest between trials on the same hand. Record each value in kilograms. The highest of the three trials is the metric used for tracking.

Safety stops: Defer testing in acute hand or wrist pain, within 6 months of hand/wrist/forearm surgery, during an inflammatory arthritis flare, or if the patient reports numbness or paresthesia during grip. Document reason for deferral.

Data recorded: Dominant hand max (kg), non-dominant hand max (kg), date, examiner initials, any deferral reasons.

Interpretation thresholds for general adult population (approximate, from published norms):

Age / Sex	Low (concerning)	Average	High
Men 30–39	< 40 kg	45–55 kg	> 55 kg
Men 40–49	< 38 kg	43–52 kg	> 52 kg
Men 50–59	< 35 kg	40–48 kg	> 48 kg
Men 60–69	< 30 kg	35–44 kg	> 44 kg
Men 70–79	< 26 kg	30–38 kg	> 38 kg
Women 30–39	< 24 kg	28–34 kg	> 34 kg
Women 40–49	< 23 kg	27–33 kg	> 33 kg
Women 50–59	< 21 kg	25–31 kg	> 31 kg
Women 60–69	< 19 kg	23–28 kg	> 28 kg
Women 70–79	< 17 kg	20–25 kg	> 25 kg

Note: *These values are approximate reference ranges drawn from published population norms for non-clinical education purposes. Leonard, please verify specific cutoffs against your preferred reference source (e.g., Dodds et al. UK norms, NHANES, or ACSM guidelines) before finalizing this manual. I've flagged this for your review.*

Meaningful change: A change of approximately 5 kg is considered clinically and functionally meaningful for tracking individual progress over months of care.

Patient communication

Verbatim script: *"I'm going to measure how strong your grip is. This isn't just about your hands — it's one of the best single measurements we have of how strong your whole body is and how well your body is going to handle aging, recovery from illness, and daily life demands. We'll measure this today, and then again every month, so you can see your body getting stronger as your care progresses."*

Talking points (experienced staff):

- Grip strength predicts a lot more than hand function — tie it to overall resilience.
- Frame it as a longitudinal marker they will see improve.
- Anchor to something the patient cares about (carrying groceries, holding a grandchild, opening jars, golf grip, garden tools).

2.2 Gait Speed over 4 Meters

Purpose: Often called the 'sixth vital sign,' gait speed is a powerful predictor of disability, hospitalization, and mortality, particularly in adults over 50. It integrates lower-body strength, balance, cardiopulmonary function, and neurologic integrity into a single 30-second measurement.

Equipment: Marked 4-meter (13.1 ft) walking course with 1-meter acceleration zones at each end, on a flat, unobstructed surface. Stopwatch or phone timer.

Patient positioning: Standing at the start line, wearing usual footwear. Assistive devices (cane, walker) may be used if the patient normally uses them; document if used.

Procedure: Instruct the patient: 'Walk at your usual, comfortable pace, as if you were walking down the sidewalk.' Start the timer when the patient's lead foot crosses the start line. Stop the timer when the lead foot crosses the 4-meter line. Perform two trials and record the faster time. Calculate gait speed = 4 / time in seconds = meters per second.

Safety stops: Active dizziness or vertigo, acute lower-extremity pain that limits walking, recent fall within 48 hours without clearance, or any patient who cannot walk 4 meters without physical assistance. Document reason for deferral.

Data recorded: Time for both trials (seconds), calculated gait speed (m/s), assistive device used (yes/no, type), examiner initials.

Interpretation (usual pace, general adult):

Category	Gait Speed (m/s)	General Interpretation
Robust / community-active	> 1.2 m/s	Typical for healthy adults under 60; excellent in older adults
Normal	1.0 – 1.2 m/s	Normal community ambulation
Slowed	0.8 – 1.0 m/s	Some functional limitation likely; monitor
Concerning	0.6 – 0.8 m/s	Associated with increased fall, hospitalization, and mortality risk
Severely limited	< 0.6 m/s	Typically requires intervention; often associated with significant disability

Meaningful change: An increase of 0.10 m/s is the established minimum clinically important difference; 0.05 m/s is considered a small meaningful change.

Patient communication

Verbatim script: *"I'm going to time you walking down this hallway. Walk at the pace you'd normally walk if you were heading down the sidewalk — not fast, not slow, just your normal pace. How fast you walk is actually one of the best overall measures of how your body is functioning, and we use it to track how care is helping you."*

Talking points (experienced staff):

- Frame gait speed as a whole-body measure, not a walking test.
- Emphasize that small changes (0.1 m/s) are real and meaningful.
- For older adults: connect improvement in gait speed to confidence crossing a street, keeping up with family, reduced fall risk.

2.3 30-Second Chair Stand

Purpose: Measures functional lower-body strength and endurance. Correlates well with leg press strength and is sensitive to change with exercise and rehabilitation. Part of the CDC STEADI fall-prevention initiative.

Equipment: Standard armless chair (seat height approximately 17 inches / 43 cm) placed against a wall so it cannot slide. Stopwatch.

Patient positioning: Seated in the middle of the chair, back straight, feet flat on the floor shoulder-width apart, arms crossed at the wrists against the chest.

Procedure: On 'Go,' the patient rises to a full standing position (knees and hips extended) and returns to a fully seated position as many times as possible in 30 seconds. Count only full stands. If the patient is more than halfway up when time is called, that repetition counts.

Safety stops: Acute knee, hip, or lumbar pain that is provoked by standing; recent lower-extremity surgery (within 3 months); severe osteoarthritis with instability; any patient who cannot complete a single sit-to-stand without hand use. Allow hand use only if necessary for safety, but flag the trial as 'modified' in the record.

Data recorded: Number of complete stands in 30 seconds, modifications if any, examiner initials.

Interpretation thresholds (below average suggests elevated fall risk):

Age / Sex	Below Average (Men)	Below Average (Women)
30–39	< 14	< 13
40–49	< 13	< 12
50–59	< 12	< 11
60–69	< 11	< 10
70–79	< 9	< 8

Note: *Verify these thresholds against your preferred reference (Rikli & Jones Senior Fitness Test norms are the standard for 60+; for 30s–50s, adjust to your chosen source).*

Meaningful change: An increase of 2 repetitions is generally considered a meaningful improvement.

Patient communication

Verbatim script: *"This test measures the strength and endurance in your legs. You'll stand up from the chair and sit back down as many times as you can in 30 seconds, keeping your arms crossed. This is one of the things we'll use to see how your lower body is responding to care, and it's also a strong predictor of how well you'll age and handle the demands of daily life."*

Talking points (experienced staff):

- Tie to activities: getting off the couch, climbing stairs, getting in and out of the car.
- For women 50+: tie to bone health and fall prevention conversation.
- Frame changes of 2+ reps as a real-world functional gain.

2.4 Single-Leg Stance

Purpose: Assesses static balance, which integrates proprioception, vestibular function, and lower-extremity strength. Strong predictor of fall risk. Eyes-closed version is notably sensitive to age-related proprioceptive decline and is a powerful teaching tool because patients feel the difference immediately.

Equipment: Stopwatch. Clear, unobstructed floor space. Sturdy wall or chair within arm's reach for safety.

Patient positioning: Standing upright, hands on hips, shoes on or off (be consistent across trials and over time). The non-stance leg is lifted so that the foot is off the ground; leg position not otherwise constrained.

Procedure: Eyes-open trial first: time how long the patient can maintain the position without (a) uncrossing the arms, (b) touching the stance foot with the non-stance foot, (c) touching down with the non-stance foot, or (d) moving the stance foot from its starting position. Cap at 45 seconds. Test both legs. For patients aged 40+ and all athletes, additionally perform the eyes-closed version with a 30-second cap.

Safety stops: Acute vertigo or dizziness, significant lower-extremity pain, recent lower-extremity surgery, acute vestibular disorders. Always stand close to the patient with a hand positioned (not touching) for catch support during eyes-closed testing.

Data recorded: Time in seconds for left leg eyes-open, right leg eyes-open, left leg eyes-closed, right leg eyes-closed (if performed), reason for termination of each trial.

Interpretation (age-referenced):

Age	Eyes Open (expected)	Eyes Closed (expected)
30–39	> 30 seconds	> 20 seconds
40–49	> 30 seconds	> 15 seconds
50–59	> 25 seconds	> 10 seconds
60–69	> 20 seconds	> 5 seconds
70–79	> 10 seconds	> 3 seconds

Patient communication

Verbatim script: *"I'm going to time how long you can balance on one leg. This measures how well your balance system is working — which depends on your muscles, your joints, and the sensors throughout your body that tell you where you are in space. All of these decline as we age unless we train them, and all of them can improve with the right care and attention. We'll do it with your eyes open first, then with them closed — the closed-eyes version is harder because it takes away the visual information your brain is using."*

Talking points (experienced staff):

- The eyes-closed gap is often dramatic; use it to teach proprioception.
- For 50+: connect balance improvement to confidence walking on uneven ground, showering without slipping, reaching overhead without wobbling.
- For athletes: tie to sport-specific balance demands (skiing, tennis footwork, golf single-leg balance in swing).

2.5 Timed Up and Go (TUG)

Purpose: Integrated measure of basic mobility. Captures sit-to-stand, walking, turning, and stand-to-sit in one measurement. Standard tool in geriatric and PM&R practice, with extensive validation as a fall-risk screen.

Equipment: Standard armchair (chair with armrests). Cone or floor marker 3 meters (10 ft) from front edge of chair. Stopwatch.

Patient positioning: Seated in the chair, back against the backrest, arms resting on armrests, feet flat on floor. Assistive devices may be used if routinely used; document.

Procedure: On 'Go,' the patient rises from the chair (using arms for push-off is permitted), walks at a usual pace to the 3-meter mark, turns around, walks back, and sits down. Time from 'Go' to the moment the patient's back contacts the chair back. One practice trial, then one timed trial.

Safety stops: Same as 30-second chair stand and gait speed; in addition, defer if patient has a new or uncleared fall in the last 48 hours.

Data recorded: Time in seconds, assistive device used, examiner initials.

Interpretation:

Time	Interpretation
< 10 seconds	Normal mobility
10–12 seconds	Slight limitation; monitor
12–14 seconds	Elevated fall risk (CDC STEADI cutoff at 12 s)
> 14 seconds	Significant mobility limitation; high fall risk
> 20 seconds	Requires assistance for basic mobility

Meaningful change: A 1.4-second improvement is considered the minimum clinically important difference in community-dwelling older adults.

Use priority: TUG is recommended as a core test for all patients age 50 and older, and for any patient of any age presenting with balance, dizziness, post-concussive, or post-trauma complaints.

Patient communication

Verbatim script: *"This one is called the Timed Up and Go. You'll stand up from the chair, walk to the cone, turn around, come back, and sit down. It's measuring how your whole mobility system works together — getting up, walking, turning, and sitting. We use it because it's one of the most studied measurements in physical medicine, and it tells us how your body is handling the basic demands of daily life."*

Talking points (experienced staff):

- For patients 60+: explicitly connect to fall risk and independence.
- For younger patients with trauma or post-concussive symptoms: frame as a measure of whole-system coordination.

2.6 Sitting-Rising Test (SRT)

Purpose: Also known as the Brito test. Assesses non-aerobic musculoskeletal fitness by scoring the ability to sit down on the floor and rise again with minimal support. Published data associate lower scores with higher all-cause mortality in adults 51–80. Requires only floor space and has strong face validity for patients.

Equipment: Floor space approximately 6 feet square, preferably matted.

Patient positioning: Standing in the center of the test area, barefoot or in non-slip socks. Wear comfortable clothing.

Procedure: Instruct: 'Without worrying about the speed of movement, try to sit down on the floor and then to rise back up, using the minimum support that you believe is needed.' Score the sit-down and the stand-up separately. Start with 5 points for each half of the movement. Subtract 1 point for each of: use of a hand, use of a knee, use of a forearm, use of one hand on a knee or thigh, use of the side of the leg. Subtract 0.5 points for any movement that visibly loses balance or nearly loses balance. The final score is the sum of sit-down and stand-up (range 0 to 10).

Safety stops: Hip replacement within 6 months, acute lumbar or lower-extremity pain, severe balance impairment, pregnancy beyond first trimester, significant obesity preventing floor positioning safely, recent falls. Use clinical judgment; document deferral reason.

Data recorded: Sit-down score (0–5), rise score (0–5), total score (0–10), specific support points used, examiner initials.

Interpretation: A total score of 8–10 is associated with the lowest mortality risk in published cohorts; 3–7 is intermediate; 0–3 is associated with substantially increased mortality risk. Frame these for patients as motivational goals rather than death-risk warnings.

Use priority: Recommended for all patients age 40 and older who can safely attempt the test. May be omitted for patients who cannot safely sit on or rise from the floor; document and offer alternative assessments.

Patient communication

Verbatim script: *"This one is called the sitting-rising test. I'll ask you to sit down on the floor and then stand back up, using as little support as you need — no pressure, just do it however feels natural and safe. It's scored based on how many points of contact you use, like a hand or a knee on the way down or up. What it really measures is the combination of strength, flexibility, and balance your whole body has — which is why it's one of the most useful single tests we can do."*

Talking points (experienced staff):

- Never frame this as a mortality test to the patient — frame it as an integrated mobility test.
- Emphasize it is a goal to train toward: most patients can improve their score in 3–6 months with targeted care and home exercise.
- For grandparents: tie to being able to get on the floor with grandchildren and get back up.
- For gardeners: tie to kneeling in the garden and standing again without struggle.

2.7 Active Range of Motion (Primary Complaint Region)

Purpose: ROM is essential for insurance and regulatory documentation of musculoskeletal care. It is concrete, visible, and easy to explain to patients. Changes over time provide a clear demonstration of treatment effect.

Equipment: Dual-inclinometer or smartphone inclinometer app (validated apps include Clinometer, Goniometer Pro — confirm your preferred choice and standardize across examiners). Traditional goniometer acceptable for peripheral joints.

Patient positioning: Standard positions per the specific joint being measured. Standardize positioning and document; consistency across visits is more important than which specific position is chosen.

Procedure: For each plane of motion tested, perform three trials and record the best value. Measure bilaterally for comparison. Standard planes to record for cervical and lumbar regions:

- Cervical: flexion, extension, left and right lateral flexion, left and right rotation.
- Lumbar: flexion, extension, left and right lateral flexion.
- Peripheral joints: as clinically indicated by primary complaint.

Safety stops: Acute radicular symptoms provoked by end-range motion — stop and document; severe acute pain with guarding; post-surgical restrictions within healing window. Do not force range; record active range only.

Data recorded: Degrees for each plane, both sides where applicable, pain provocation on each movement (yes/no, 0–10 pain rating if provoked).

Meaningful change: 5 degrees is generally considered the measurement noise threshold; 10 degrees is widely treated as a clinically meaningful change.

Patient communication

> ***Verbatim script:*** *"I'm going to measure how far you can move your [neck/back/etc.] in each direction. Measuring this today gives us a clear starting point, and every month we'll measure again so you can see exactly how your range of motion is changing with care. This is one of the most tangible ways to see your body opening up as treatment progresses."*

2.8 Patient-Specific Functional Scale (PSFS)

Purpose: Captures the activities that matter most to the individual patient and quantifies perceived difficulty. Directly supports the office's focus on life-quality and patient-identified goals. Strong responsiveness to treatment across musculoskeletal conditions.

Equipment: PSFS form (printed or tablet-based).

Procedure: At intake, the assistant asks: 'I'm going to ask you to identify up to 5 important activities that you are unable to do or are having difficulty with because of your [problem]. Today, are there any activities that you are unable to do or having difficulty with because of your [problem]?' For each activity named, ask: 'On a scale of 0 to 10, with 0 being unable to perform the activity and 10 being able to perform the activity at the same level as before the injury or problem, how would you rate your ability to [activity] today?' Record activities and scores.

Re-assessment: At each monthly reassessment, read back the activities and ask for a current 0–10 rating for each. Add new activities if they emerge; retire activities the patient no longer considers limited.

Data recorded: Up to 5 activities in the patient's own words, 0–10 rating for each, date.

Meaningful change: 2 points on a single activity, or 2 points on the average of activities, is the established minimum clinically important difference.

Patient communication

> ***Verbatim script:*** *"I'd like you to tell me up to 5 things that are important to you that you either can't do right now, or are having trouble doing, because of what brought you in today. These can be anything — work, a hobby, a sport, something around the house, something with family. Once you name them, I'll ask you to rate how well you can do each one, from 0 (can't do it at all) to 10 (can do it exactly like before the problem started). These specific activities are going to become some of the most important things we track in your care."*
>
> ***Talking points (experienced staff):***
>
> - Push for specificity: not 'exercise' but 'running 3 miles without back pain.'
> - Activities in the patient's own words carry more motivational power than clinical categories.
> - These become the anchor for every progress conversation going forward.

2.9 Region-Specific Patient-Reported Outcome

Purpose: Standardized, condition-specific patient-reported outcomes provide insurance-recognized, research-grade documentation of functional status and change. Choose the instrument matched to the primary complaint.

Standard selections:

- **Cervical complaints:** Neck Disability Index (NDI). 10 items, 5-minute completion, 0–50 scale (reported as a percentage). MCID typically 5–10 points (10–20%).
- **Lumbar complaints:** Oswestry Disability Index (ODI). 10 items, 5-minute completion, 0–100% scale. MCID typically 10 points.
- **Upper extremity complaints:** QuickDASH. 11 items, 0–100 scale. MCID approximately 8 points.
- **Lower extremity complaints:** Lower Extremity Functional Scale (LEFS). 20 items, 0–80 scale. MCID approximately 9 points.
- **General health/multi-region:** PROMIS-29 (or PROMIS-10 short form). Recommended as the general-health instrument across all patients, in addition to a region-specific instrument. Free, NIH-developed, increasingly the PM&R research standard.

Administration: Patient self-completes via tablet, patient portal, or paper before the assistant collects vital functional data. Completion time 5–10 minutes. Assistant verifies completion and scores (tablet/portal scoring is automatic; paper requires assistant hand-scoring using the instrument's scoring key).

Data recorded: Raw score, scored percentage where applicable, date, instrument version.

2.10 Vitals and Anthropometrics

Captured at intake and every 90 days (or as clinically indicated). Essential for cardiovascular context, medication interactions, and longitudinal research.

- Resting heart rate and blood pressure (seated, standardized).
- Height, weight, BMI.
- Waist circumference (optional but recommended for metabolic risk stratification).
- Resting respiratory rate (optional).

3. Decade-Specific Protocol Additions

These sections add to and modify the core battery in Section 2. All patients receive the full core battery unless contraindicated; decade-specific additions layer on top.

3.1 Patients in Their 30s

Clinical context: This is typically a low-baseline-concern decade for functional decline but a critical decade for establishing habits, preventing injury, and managing the consequences of work and parenting demands. Grip strength and gait speed often ceiling-effect in this decade; emphasize neck/back-specific tests, activity-specific tools, and PSFS.

Added tests

- Deep neck flexor endurance test, for any cervical complaint, post-MVA history, or desk-based occupation.
- Sorensen test for lumbar extensor endurance, for any lumbar complaint or sedentary occupation (contraindicated in acute LBP).

Skipped or de-emphasized

- TUG is not routinely indicated unless balance, dizziness, or trauma is part of the presentation.
- SRT is optional; include for patients with athletic interests or those who sit on the floor with children.

Communication emphasis

- Injury prevention and performance optimization.
- For pregnant or post-partum patients: adapt positioning and defer any test where positioning is contraindicated.
- Establishing measurement habits early makes multi-decade tracking possible.

3.2 Patients in Their 40s

Clinical context: Often the inflection decade. Muscle mass plateau and early decline begin. Disc degeneration becomes more symptomatic. Perimenopause begins in women; androgen decline accelerates in men. Parenting and career demands often peak. Patients in this decade often present with 'I used to be able to...' complaints.

Added tests

- Single-leg stance with eyes closed becomes a standard addition (already included for athletes in the 30s).
- SRT becomes standard for all patients who can safely perform it.
- Deep neck flexor endurance for any patient with sedentary occupation, regardless of complaint.

Communication emphasis

- Frame results as the baseline for the next 30–40 years.
- Introduce the language of 'what we do now determines what's available in the 60s and 70s.'

- Connect to parenting modeling — children watch how their parents move and care for their bodies.
- For women: begin introducing bone and joint health conversation ahead of menopause.

3.3 Patients in Their 50s

Clinical context: Menopause and andropause effects become clinically meaningful. Sarcopenia (age-related muscle loss) accelerates without resistance training. Bone density declines in women. Cardiovascular disease incidence rises. Patients often still feel young but are entering the decade where silent changes become consequential.

Added tests

- TUG becomes a standard core test.
- Gait speed assumes equal weight with grip strength as a primary longitudinal marker.
- Eyes-closed single-leg stance becomes mandatory, not optional.

Communication emphasis

- Introduce explicit fall-risk protective framing (even for healthy patients — this is the decade to build the reserve that prevents falls in the 70s).
- Connect grip strength and chair stand to bone density and fracture risk.
- Tie improvements to specific activities the patient wants to maintain for 20 more years.

3.4 Patients in Their 60s

Clinical context: Fall risk becomes clinically meaningful across the general population. Retirement often changes activity patterns. Grandparenting becomes a common life role. This decade has the strongest published evidence for the predictive power of functional measures.

Added tests

- Short Physical Performance Battery (SPPB) — consider as an integrative add-on. Combines gait speed, chair stand, and balance into a single 0–12 score with excellent published reference data.
- Functional reach test as a rapid balance/core measure.
- Four Square Step Test if TUG is at ceiling and balance concerns remain.

Communication emphasis

- Every metric is now a fall-risk and independence metric; make this explicit without being alarming.
- Tie grip strength to bag-carrying, grandchild-holding, gardening.
- Tie chair stand and gait speed to maintaining the ability to travel, hike, and stay active in retirement.
- Tie balance to showering safety, stair safety, and curb negotiation.

3.5 Patients in Their 70s

Clinical context: The decade where independence is actively being preserved or lost. Frailty prevention is the primary framing. Dual-task performance (walking while talking, walking while carrying) often reveals deficits that single-task testing misses.

Added tests

- SPPB becomes a standard core test.
- Dual-task gait: repeat gait speed while performing a cognitive task (counting backward by 3s, naming animals). A difference of greater than 20% between single- and dual-task gait speed is a meaningful marker of cognitive-motor interference.
- Functional reach test, mandatory.
- Mini-Cog or similar brief cognitive screen may be indicated for research completeness; this requires training and informed consent framing, and is typically ordered/interpreted by the doctor.

Modified tests

- Sorensen test: often contraindicated or limited by comorbidity. Offer only when clearly safe.
- SRT: attempt only with careful safety setup; document contraindications liberally.

Communication emphasis

- Frame every assessment around the preservation of specific independence milestones: driving, shopping, stairs, bathing, traveling.
- Connect metrics to specific grandparenting or great-grandparenting goals.
- Emphasize that improvement is still possible — this decade is not 'managing decline,' it's 'building reserve.'
- Be attentive to any signs of cognitive slowing during testing; report observations to the doctor.

4. Scenario-Specific Assessment Add-Ons

These modify or add to the core and decade-specific batteries based on the clinical presentation. They are intended to be ordered by the doctor but administered by the trained assistant unless otherwise noted.

4.1 Acute Pain (< 4 weeks duration)

- Defer Sorensen, SRT, and aggressive ROM testing if provocative.
- Use Numeric Pain Rating Scale (NPRS, 0–10) at every visit, not just monthly.
- PSFS becomes the primary activity-tracking metric.
- Prioritize pain-free ROM over maximum ROM.

4.2 Chronic Pain (> 12 weeks duration)

- Add PROMIS Pain Interference short form (4a or 6a) in addition to region-specific PRO.
- Add Fear-Avoidance Beliefs Questionnaire (FABQ) for lumbar pain, or Tampa Scale for Kinesiophobia (TSK-11) for any chronic musculoskeletal pain. These patient self-report measures predict disability independent of pain intensity.
- Track sleep quality using a single-item rating or PROMIS Sleep short form (essential for chronic pain research).

4.3 History of Failed Prior Treatment

- Document prior treatment types, duration, and outcomes at intake.
- Use PSFS intensively — prior providers often missed what actually mattered to the patient.
- Consider adding Patient Global Impression of Change (PGIC) at each reassessment. This 7-point single-item scale asks the patient to rate overall change since starting care; it captures the subjective recovery trajectory independent of specific metric changes.

4.4 Trauma History (MVA, work injury, home injury)

- Document mechanism of injury in detail.
- TUG becomes a standard test regardless of age.
- Deep neck flexor endurance and cervical ROM are mandatory for any cervical trauma.
- Add Post-Concussion Symptom Scale (PCSS) for any head injury or whiplash with cognitive or sensory symptoms.
- Consider Dizziness Handicap Inventory (DHI) for any patient with post-trauma dizziness.

4.5 Physical Limitation or Restricted Activity

- Use PSFS to define specific activity restrictions.
- Use region-specific PRO plus PROMIS Physical Function short form for longitudinal tracking.
- Defer or modify any test the restriction prevents; document specifically.

4.6 Athletic or High-Performance Patient

- Core battery may ceiling-effect. Emphasize PSFS with sport-specific activities.

- Eyes-closed single-leg stance standard.
- Consider Y-balance test or Star Excursion Balance Test for dynamic balance.
- Single-leg hop for distance (if orthopedically safe) for lower-extremity power asymmetry.

5. Reassessment Cadence

A standardized schedule is essential for longitudinal tracking, insurance documentation, and patient motivation. The following is the default schedule; the doctor may modify based on the clinical picture.

5.1 At Every Visit (Quick Check)

- Numeric Pain Rating Scale (0–10).
- PSFS top 2 activities — quick rating only.
- Any new complaints or concerns.

Total time: under 2 minutes.

5.2 Every 30 Days or Every 12 Visits (Full Reassessment)

- Entire core battery (Section 2).
- Decade-specific additions (Section 3).
- Scenario-specific additions (Section 4), as applicable.
- Full PSFS review with all activities.
- Region-specific PRO.
- PGIC (patient global impression of change).

Total assistant time: 20–25 minutes. Block this on the schedule.

5.3 Every 90 Days (Comprehensive Review)

- Full reassessment as above.
- Plus: vitals and anthropometrics.
- Plus: PROMIS-29 repeat.
- Plus: a formal doctor-led progress conversation using the comprehensive progress summary (see Section 6.2).

6. Documentation Standards

6.1 What Gets Documented Where

Three distinct records, linked by patient ID, each serving a different purpose:

- **EHR clinical record:** All assessments, interpretations, and clinical decisions. The record for insurance, regulatory, and medico-legal purposes.
- **Patient-facing progress summary:** A one-page visual summary the patient receives at each monthly reassessment. Designed for motivation and education, not clinical documentation.
- **Research database:** A parallel de-identified database (REDCap or equivalent) for aggregating longitudinal data across patients for publication. Requires IRB coverage if used for publication purposes.

6.2 The One-Page Monthly Summary

Every monthly reassessment produces a one-page summary with the following elements:

- Patient name and date at top.
- A compact table showing each metric: today's value, last month's value, change, and a directional indicator (improved / stable / worsened).
- A simple chart showing the trend of 2–3 key metrics over the past 3–6 months.
- Top 3 PSFS activities with today's score and the starting score.
- One sentence of interpretation written in plain language, for example: 'Your grip strength has improved from 35 kg to 41 kg over the past three months — that's a meaningful gain and puts you in a stronger position for your golf season.'
- A forward-looking statement: what the next month's goal is.

This page is printed and given to the patient or added to their portal. It is the primary motivational tool.

6.3 EHR Field Specifications

The following fields should be created as structured data in the EHR (as smart-phrase, template form, or flowsheet depending on EHR capabilities). Structured data is essential for longitudinal tracking and research extraction; free-text notes alone do not support these goals.

- For every test: value(s), unit, date, examiner, modifications, and reason for deferral if applicable.
- For PROs: total score, subscale scores where applicable, completion date.
- For PSFS: up to 5 activities as free text, each with a paired 0–10 score field.

6.4 Research Database Considerations

For research use, data must be de-identified (or identified only under IRB-approved protocol) and stored in a HIPAA-compliant system. REDCap (Research Electronic Data Capture) is widely used, free for most academic partnerships, and has strong audit trails. If pursuing publication, early consultation with an IRB (university-affiliated or commercial) is essential; retrospective chart review of systematically collected data is a common and tractable study design for practice-based research.

7. Assistant Training and Competency Verification

7.1 Initial Training Sequence

Each new assistant completes the following before independent administration:

- Read this manual in full (estimated 90 minutes).
- Observe the doctor or a senior assistant administer the full core battery on 3 patients.
- Administer the full core battery under direct observation on 3 patients, with feedback after each.
- Pass a competency check with the doctor: administer the full battery on one patient while the doctor observes and scores the assistant's technique, timing, and patient communication.
- Demonstrate at least 2 of the verbatim scripts from memory and adapt at least 2 talking-point sequences in a role-play with the doctor.

7.2 Ongoing Competency

- Quarterly: each assistant performs the full battery on a designated 'standardized patient' (a staff member or volunteer) and compares results against the prior quarter's measurements for the same standardized patient. Significant drift indicates need for retraining.
- Annually: full competency check with the doctor including new updates to the manual.

7.3 Common Errors to Monitor

- Grip strength: inconsistent arm positioning between trials.
- Gait speed: starting the timer late or stopping it early.
- Chair stand: counting partial stands; failing to record modifications.
- Single-leg stance: not standardizing arm position; inconsistent rules for when to stop the timer.
- TUG: varying the turn-around cone distance; letting the patient accelerate on the practice trial.
- ROM: failing to standardize start position; inconsistent inclinometer placement.
- PSFS: leading the patient toward activities; not capturing the patient's own words.

8. Next Steps and Companion Documents

This manual is Document 1 of 3 in the initial office system build. The two companion documents that follow will be:

- **Decade-by-Decade Communication Scripts:** Detailed verbatim scripts and talking-point guides for the major communication moments — initial results delivery, monthly progress reviews, handling setbacks, and the life-domain translations (sport, parenting, romance, hobbies, longevity) specific to each decade.
- **The 10-Years-Older Visualization Exercise:** A structured protocol for conducting the future-self / past-self visualization, including the intake interview, the written component, the content library (what 40-year-olds wish they'd done at 30, what 50-year-olds wish they'd done at 40, and so on), and how assistants reinforce it across subsequent visits.

Subsequent documents (to be built after your review of the first three) will cover: the one-page monthly progress summary template; the EHR field specifications and smart-phrase templates; the REDCap database field specifications; training role-play scripts; and a pilot-and-research pathway document.

8.1 Open Items for Leonard's Review

- Confirm preferred reference source(s) for grip strength and chair stand norms — the tables above are approximate and should be reconciled with your chosen published source.
- Confirm preferred inclinometer approach (device vs. validated smartphone app).
- Confirm which EHR is in use and its capabilities for structured data fields, flowsheets, and smart-phrases — this will shape the Section 6.3 field specification document.
- Confirm whether the research pathway will be solo-practice or multi-site from the outset, as this affects IRB and database architecture decisions.
- Identify the office assistant(s) who will pilot this and estimate available training time.
- Decide on a pilot start date and a defined pilot cohort size (for example, first 20 new patients after a given date).