



CORE STRENGTHENING & SPINAL STABILITY

Home Exercise Program to Limit Back Pain

IMPORTANT DISCLAIMER: This is general educational information, not personalized medical advice. Consult Dr. Gray or your healthcare provider before starting, especially with current pain or conditions. Stop if pain increases. Work only in pain-free ranges with good form.

PROGRAM GOALS

- Build deep core stability (transverse abdominis, obliques, multifidus, QL) to support and protect the spine
- Improve neuromuscular control and endurance to reduce back pain and prevent recurrence
- Enhance posture, movement efficiency, and resilience for daily activities
- Focus on safe, evidence-based exercises (including McGill's Big 3) that minimize spinal stress

WHY CORE STABILITY HELPS BACK PAIN

A strong, stable core acts as a natural "corset" for your spine, distributing loads evenly and reducing stress on discs, joints, and muscles. Weak or poorly coordinated core muscles are a common contributor to low back pain. These exercises emphasize controlled activation and endurance over high repetition or spinal flexion, following principles from spine expert Dr. Stuart McGill.

GENERAL GUIDELINES

- **Frequency:** 3–5 days/week. Daily activation is beneficial.
- **Sets/Reps:** Start 1–2 sets of 8–12 reps or 20–40s holds. Progress to 2–3 sets of 10–15 or 30–60s.
- **Form First:** Brace core gently (draw belly button in slightly) before each movement. Breathe normally. No pain.
- **Progression:** Increase time/reps, slow tempo, or add resistance when easy with perfect form.
- **Equipment:** Yoga mat. Optional: pillow/towel, resistance band.

WARM-UP & ACTIVATION (5 minutes - Do Every Session)

1. Abdominal Drawing-In Maneuver (ADIM) + Breathing

Purpose: Activates deep transverse abdominis for foundational spinal stability.

How to: Lie on back, knees bent, feet flat. Breathe in through nose (belly rises). On exhale, gently draw belly button toward spine without flattening back or holding breath. Hold 5–10 sec while breathing lightly. 8–12 reps.

Tips: Feel deep tension, not superficial abs. Can add gentle pelvic floor lift.

2. Pelvic Tilts

Purpose: Improves pelvic awareness and gentle mobility.

How to: Same position. Gently rock pelvis to flatten low back then release to small arch. 10–15 slow reps.

MAIN EXERCISES (McGill Big 3 + Supporting Moves)

Perform 4–6 per session. Focus on control and bracing.

3. McGill Curl-Up (Modified)

Simple Curl-Up Progression



Purpose: Strengthens rectus abdominis and obliques with minimal spinal flexion stress.

How to: Lie on back, one knee bent, other leg straight or bent. Hands under low back for support. Brace core. Lift shoulders slightly off floor (like a partial crunch) while keeping low back supported. Hold 3–5 sec or do slow reps. Alternate leg positions.

Reps: 2–3 sets of 8–12 per side or position. **Tips:** Keep neck neutral, chin slightly tucked. No full sit-up.

4. Bird Dog



Purpose: Builds integrated core stability, glute, and back extensor control (multifidus).

How to: On hands and knees, neutral spine. Brace core. Extend one arm forward and opposite leg back, keeping hips level and back flat. Hold 3–5 sec. Return slowly. Alternate.

Reps: 2–3 sets of 8–12 per side. **Tips:** Slow and controlled. Imagine balancing water on low back.

5. Modified Side Plank (Knees)



Purpose: Strengthens obliques and quadratus lumborum for lateral stability.

How to: Lie on side, knees bent, stacked. Prop on forearm (elbow under shoulder). Lift hips to straight line from head to knees. Hold. Lower with control.

Reps: 2–3 sets of 20–45 sec holds per side. **Tips:** Don't let hips sag. Breathe normally.

ADDITIONAL SUPPORTING EXERCISES

6. Dead Bug

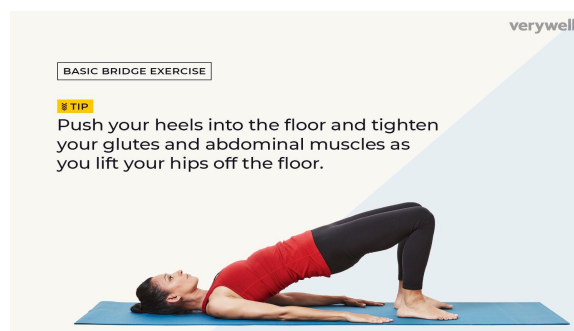


Purpose: Excellent anti-extension core control with minimal back stress.

How to: Lie on back, arms up, knees bent 90° (shins parallel). Brace core so low back presses into floor. Slowly extend opposite arm and leg while keeping back flat. Return. Alternate.

Reps: 2–3 sets of 8–12 per side. **Tips:** If back arches, reduce range. Exhale on extension.

7. Glute Bridge



Purpose: Strengthens glutes and posterior chain for hip extension and pelvic stability.

How to: Lie on back, knees bent, feet flat. Brace core and squeeze glutes. Lift hips to straight line from knees to shoulders. Hold 2–5 sec at top. Lower slowly.

Reps: 2–3 sets of 10–15. **Tips:** Drive through heels. No hyperextension at top.

8. Forearm Plank (Advanced)

Purpose: Full anterior core endurance.

How to: Forearms on floor, elbows under shoulders, toes tucked. Brace core and glutes. Body straight from head to heels. Hold.

Reps: 2–3 sets of 20–60 sec. Modify on knees if needed.

COOL-DOWN / MOBILITY (5 minutes)

- Cat-Cow: On all fours, alternate arching and rounding back gently. 8–10 reps.
- Child's Pose: Sit back on heels, fold forward. Hold 20–30 sec.
- Knee-to-Chest: Lie back, pull one knee to chest. 20–30 sec per side.

PROGRESSION & WEEKLY SCHEDULE

Weeks 1-2: Focus on activation and form (ADIM, pelvic tilts, McGill Big 3). Lower volume.

Weeks 3-4: Increase sets/holds. Add Dead Bug and Glute Bridge.

Weeks 5+: Longer holds, slower tempos, or introduce light resistance. Maintain 3x/week minimum.

Sample: Mon/Wed/Fri: Full routine. Tue/Thu: Activation + 2 exercises + walk. Rest or light activity weekends.

EXTRA TIPS FOR SUCCESS

- Prioritize quality over quantity. Pain-free is key.
- Walk daily — it complements core work beautifully.
- Maintain good posture throughout the day.
- Combine with your chiropractic adjustments for best results.
- If pain persists, reassess with Dr. Gray.

Consistency with these stability-focused exercises can significantly reduce back pain and improve function. You're investing in long-term spinal health!

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