

# Cricket Spinal Rehabilitation Program

Left L5 Pars Stress Injury – Early Spondylolysis

17-Year-Old All-Rounder (Bowler & Batsman)



**Important:** Always liaise with your treating physician, sports physician, and physiotherapist before progressing through any phase. This programme is a guide only.

## Phase 1 — Acute / Protection Phase (Weeks 0-4)

**Goals:** Reduce pain, promote early healing, minimise micro-motion at the pars interarticularis, protect the spine, and maintain general fitness.

**Precautions:** Avoid lumbar hyper-extension, excessive rotation, and heavy trunk loading. No competitive bowling or batting; avoid jerk/impact loads.

### Activity Modifications

- NO fast bowling, no heavy bat swings, restricted cricket-specific loads.
- Low-impact aerobic activity (stationary bike, walking) as tolerated.

### Core Activation & Co-contraction

- Dead-bug: Supine; gentle abdominal drawing in with contralateral arm/leg lift — maintain neutral lumbar spine throughout.
- Bird-dog: On hands and knees; opposite arm and leg extended, emphasising glute and multifidus control.
- Pelvic tilts: Supine; gentle anterior/posterior tilts to locate and hold neutral spine position.

### Flexibility

- Hamstrings & hip flexors: Gentle static stretching — hold ~30 seconds, 2–3 repetitions. Tight hips increase lumbar stress.

### Glute Activation

- Side-lying clamshells (glute medius).
- Bodyweight glute bridges — focus on NOT extending the lower back at the top.

### Education & Posture

- Learn and maintain a neutral spine position during sitting and daily activities.
- Avoid prolonged lumbar extension (e.g. leaning back while fielding).
- No rotational loads with the bat during this phase.

### Session Frequency

- Supervised physiotherapy: 2–3 sessions/week.
- Home programme: 3–4 sessions/week.

**Pain Guide:** No sharp lumbar pain above 3/10. If pain flares, reduce the load and consult with your physiotherapist.

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## Phase 2 — Strength & Control Phase (Weeks 4-8)

**Goals:** Build trunk and hip strength, improve dynamic spinal stability, and reintroduce sport-specific movements slowly (non-bowling)

### Progressive Core (Advancing from Phase 1)

- Pallof press: Standing resisted anti-rotation — emphasise a stable, upright trunk.
- Single-leg stance with rotation: Holding a medicine ball; NO lumbar hyper-extension.
- Roman chair back extension: Extend only to neutral — never into hyper-extension.

### Hip & Glute Strengthening

- Bulgarian split squats and forward/backward lunges.
- Hip hinges with good form — strengthening the glute-hamstring chain offloads the lumbar spine.

### Multi-Plane Trunk Loading

- Cable wood-chops: Light load, controlled movement — chop diagonally across the body.
- Rotational medicine-ball throws: Kneeling or chest-pass; slow and controlled technique.

### Return to Low-Impact Cricket Movement

- Fielding drills without full bowling action.
- Soft ground movement patterns; light bat drills in stance — no full-power swing yet.

### Aerobic Conditioning

- Pool, stationary bike, or moderate rowing machine – 30-40 minutes per session.

**Pain Guide:** Mild discomfort only (<2/10) that resolves quickly after sessions

## Phase 3 — Cricket-Specific & Return to Sport Phase (Weeks 8-12+)

**Goals:** Gradually return to full bowling and batting loads. Ensure spinal load tolerance and integrate the full hip-trunk-shoulder kinetic chain.

### Strength & Power Progression

- Deadlifts / Romanian deadlifts (moderate weight) — lumbar neutral throughout.
- Step-ups and kettlebell swings (hip hinge pattern).
- Plyometric drills: lateral bounds, rotational medicine-ball throws at increasing velocity.

### Cricket-Specific Drills

Batting	Shadow swings → soft ball → full batting (limited overs). Gradually add rotational load.
Bowling	Begin with modified action at 50% pace (4-8 overs). Monitor for 48 hours. Progress to full pace only if symptom-free.

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Fielding	Dive practice and sharp movements – limit deep flexion / extension until well tolerated. Coach alternative techniques initially.
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### Load Monitoring – The 10% Rule

- Track overs bowled, bat swings, and net session hours each week.
- Do not increase total weekly training load by more than 10% from the previous week.
- Use pain and next-day stiffness as your guide — if either increase, reduce load.

### Return-to-Play Criteria

<ul style="list-style-type: none"> <li>○ No lumbar pain above 2/10 during or after activity, and no increased stiffness lasting more than 24-48 hours.</li> <li>○ Full, pain-free range of motion of the lumbar spine: flexion, extension, rotation and side-flexion.</li> <li>○ Trunk flexor endurance &gt;45 seconds; trunk extensor endurance &gt;50 seconds.</li> <li>○ Single-leg squat and hop tests symmetrical (strength difference &lt;10% side-to-side).</li> <li>○ Bowling load successfully ramped to &gt;80% of pre-injury overs for two consecutive weeks without flare-up.</li> <li>○ Full-pace functional on-field drills completed without pain or change in movement pattern.</li> </ul>
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### Special Consideration for Cricketers

Bowling action	The delivery stride involves high lumbar extension + rotation + side-flexion. Work with your bowling coach <i>and</i> physiotherapist to review and optimise your action and reduce lumbar loading.
Batting	Repeated trunk rotation and extension through drives must be gradually re-loaded. Start with shadow and soft-ball work.
Growth & maturity	At age 17, vertebral growth plates may still be maturing. This makes adequate strength, coordination, and load management especially critical.
Prevention	Once returned to full cricket, continue hip/glute strength work at least once weekly, daily core activation, and a regular flexibility programme.

### Expected Timeline

Phase 1 Weeks 0-4	Phase 2 Weeks 4-8	Phase 3 Weeks 8-12+	Full Return ~3-4 months
Protection & Basic activation	Strength & Dynamic control	Cricket-specific loading	Full competitive cricket

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