

Exercise Therapy

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MMT for Quadriceps

Muscle Group

Quadriceps femoris: Rectus femoris, Vastus lateralis, Vastus medialis, Vastus intermedius

Action: Knee extension

Daniels & Worthingham's Muscle Testing, Medical Research Council

Principle of MMT

Grading: 0 → 5 (based on contraction, ROM, gravity, resistance)

Progression: No contraction → Assisted → Against gravity → Resistance

GRADE-WISE MMT (QUADRICEPS)

Grade 0 (Zero) – No contraction

Finding: No visible or palpable contraction

Testing Method: Patient supine, Palpate quadriceps above patella

Clinical Significance: Indicates complete paralysis / severe femoral nerve lesion

Grade 1 (Trace) – Flicker

Finding: Minimal contraction, no movement

Testing Method: Palpate quadriceps tendon during attempted extension

Grade 2 (Poor) – Movement without gravity

Finding: Full ROM in gravity-eliminated position

Position: Side-lying or supine with support

Example: Knee extension with leg supported on table

Grade 3 (Fair) – Against gravity

Finding: Full ROM against gravity

Position: Sitting, legs hanging

Movement: Extend knee fully

Clinical Note: Essential for functional activities (standing, walking)

Grade 4 (Good) – Moderate resistance

Finding: Full ROM against moderate resistance

Testing Method: Apply resistance at distal leg (above ankle)

Protocol: Hold extension against resistance

Grade 5 (Normal) – Full strength

Finding: Full ROM against maximal resistance

Testing Method: Strong resistance applied at distal leg

Clinical Note: Normal strength for functional activities

Reference: Kisner, Carolyn Therapeutic exercise: foundations and techniques / Carolyn Kisner, Lynn Allen Colby. — 5th ed.

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