Exercise Therapy

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Manual Muscle Testing

Oxford Scale

Grade	Description
0	No contraction is present
1	The muscle is capable of performing the full available range of movement with gravity counterbalanced
2	The muscle is capable of performing the full available range of movement with gravity counterbalanced
3	The muscle is capable of performing movement against the resistance of gravity into the fullest available range
4	The muscle is capable of performing movement against the resistance of gravity and an added resistance, which should be measured
5	The muscle functions normally

NOTE: It may not be possible to arrange the patient so that gravity offers resistance throughout the full range. Those muscles which perform over joints having a range much greater than 90°, such as the quadriceps or hamstrings, will have to be tested through the available gravity-resisted range.

MRC Muscle Strength Grading System

Grade	Description
0	**No contraction** – No visible or palpable muscle contraction.
1	**Flicker/Trace** – Flicker of contraction, but no movement at the joint.
2	**Active movement with gravity eliminated** – Full ROM, but only in horizontal plane.
3	**Active movement against gravity** – Full ROM in vertical plane, no resistance.
4	**Active movement against gravity and resistance** – Movement against some resistance.
5	**Normal power** – Full ROM against gravity and strong resistance; normal strength.

DIFFERENCE BETWEEN THE GARDING SYSTEM

METHOD	SCALE	PURPOSE	FOCUS	UNIQUE FEATURES
Lovett's Method	0–5	Developed for polio rehabilitation (early 1900s)	General gross motor function	Uses descriptive terms like "Paralysis", "Poor", "Good"; no emphasis on resistance testing techniques.
Medical Research Council (MRC)	0–5	Developed for neuromuscular conditions (1943)	Neurological assessment	Quick bedside testing; widely used in stroke, SCI, neuropathy exams. No detailed method for applying resistance.
Daniels & Worthingham	0–5 (with +/– option)	Clinical physical therapy and rehabilitation	Isolated muscle/group testing with proper technique	Defines standardized positions, stabilization, and resistance application. Cautions overusing +/–.
Hislop & Montgomery	0–5 (with +/– option)	Expanded Daniels & Worthingham work	Functional and detailed muscle performance	Emphasizes proper test positioning, movement plane, gravity effect, and patient posture.
Kendall's Method	0–10 (in early versions) or 0–5 with fine gradations	Functional muscle analysis	Muscle balance and postural alignment	Originally used a more detailed 0–10 scale. Focuses on muscle balance and function rather than just strength.

Though not officially encouraged, some clinicians use:

- **3+ (Fair Plus)**: Full ROM against gravity and slight resistance.
- **2− (Poor Minus)**: Partial ROM in gravity-eliminated position.