Cuthbert S. The Gluteus Maximus Manual Muscle Test in Chiropractic clinical practice: A critical review of reliability, validity, clinical utility, and its importance as a core Chiropractic examination competency. Asia-Pac Chiropr J. 2026;7.3. https://www.apcj.site/CuthbertGluteMaxMMT.pdf

MANUS Summary

Cuthbert's critical review argues that standardised gluteus maximus manual muscle testing (MMT) should be a core Chiropractic examination competency because of the muscle's contribution to hip extension, propulsion, pelvic stability and trunk control. The paper describes MMT as a rapid, inexpensive clinical assessment of hip-extensor performance that can identify gross weakness, side-to-side differences and changes during reassessment. The standardised prone procedure involves approximately 90° of knee flexion, pelvic stabilisation and downward resistance applied to the posterior distal thigh during active hip extension. Knee flexion reduces hamstring contribution, while pelvic stabilisation limits substitution through lumbar extension and pelvic rotation. The review cites approximately 75.6% inter-examiner agreement for gluteus maximus strong/weak classification and separate hip-extensor research demonstrating an association between manual grades and objectively measured isometric torque. These findings support the potential clinical usefulness of carefully standardised testing, although evidence from different testing configurations should not be treated as interchangeable.

For Chiropractors, the principal clinical implication is to integrate gluteus maximus MMT into a broader neuromusculoskeletal and functional examination, particularly when assessing hip, gait and lumbopelvic presentations. A weak response is an examination finding, not a diagnosis: it indicates impaired force generation or maintenance under the test conditions but does not independently establish a spinal subluxation, visceral disorder or specific cause of low back pain. Potential contributors include pain inhibition, deconditioning, injury, altered motor control and neurological impairment, requiring further assessment. MMT remains a categorical or semi-quantitative measure and complements, rather than replaces, dynamometry, neurological examination or other indicated investigations. Although the paper discusses Applied Kinesiology reflex relationships, therapy localisation and challenge procedures, it acknowledges that specific reflex-to-muscle relationships have not been adequately tested and distinguishes standardised musculoskeletal MMT from additional non-musculoskeletal challenges. Its strongest educational recommendation is therefore to teach reproducible technique, recognition of substitution, consistent documentation and appropriately qualified interpretation, while acknowledging the limited and heterogeneous evidence base.

MANUS QUIZ

Question 1

Which procedure best reflects the standardised prone gluteus maximus MMT described in the paper?

A. The patient lies prone with the knee extended, and resistance is applied to the ankle without pelvic stabilisation
B. The patient lies prone with the knee flexed approximately 90°, the pelvis stabilised, and downward resistance applied to the posterior distal thigh during hip extension
C. The patient lies supine and performs resisted hip flexion with the knee extended
D. The patient stands and performs resisted hip abduction while allowing pelvic rotation.

Answer: B. This configuration assesses hip-extensor performance while reducing hamstring contribution and limiting lumbopelvic substitution.

Question 2

During testing, a patient extends the lumbar spine and rotates the pelvis while attempting to lift the thigh. What is the most appropriate response?

A. The examiner should accept these movements as evidence of normal gluteus maximus strength
B. The examiner should increase resistance without changing the testing technique
C. The examiner should improve pelvic stabilisation and repeat the assessment under consistent conditions
D. The examiner should diagnose a specific spinal lesion from the substitution pattern alone.

Answer: C. Lumbar extension and pelvic rotation can create apparent hip extension and compromise interpretation of the test.

Question 3

What does the cited association between hip-extensor MMT grades and measured isometric torque support?

A. Manual grades can reflect meaningful differences in hip-extensor force, without providing an exact torque measurement
B. Every manual grade corresponds to a fixed torque value in every patient
C. MMT and dynamometry provide identical measurements and are interchangeable
D. A normal manual grade excludes all hip and lumbopelvic disorders.

Answer: A. The findings support concurrent validity for the studied hip-extensor assessment, but do not justify converting an individual MMT grade into an exact torque value.

Question 4

How should a weak gluteus maximus MMT result be interpreted clinically?

A. It independently confirms an upper cervical fixation
B. It establishes a visceral disorder associated with the muscle
C. It proves that gluteus maximus dysfunction is the sole cause of the patient's low back pain
D. It identifies difficulty generating or maintaining force under the test conditions and should guide further examination.

Answer: D. Weakness is an examination finding, not a diagnosis; its possible contributors must be evaluated within the wider clinical presentation.

Question 5

Which statement best reflects the paper's distinction between standardised MMT and alternative Applied Kinesiology procedures?

A. All procedures labelled gluteus maximus MMT have the same established reliability and validity

B. Evidence for standardised musculoskeletal MMT should not automatically be extended to standing variations or additional non-musculoskeletal challenges
C. Reliability of standardised MMT proves the diagnostic validity of every associated reflex relationship
D. A change in muscle response after a challenge independently confirms a specific systemic disorder.

Answer: B. The paper emphasises procedure-specific evidence and cautions against assuming that alternative configurations or additional challenges share the evidence base of standardised testing.