

Multifidus Muscle

Nathaniel Yomogida, SPT Chloë Kerstein, SPT

Table of contents

1	OIAN	2
2	Multifidus OIAN	4
2.1	Origin	4
2.2	Insertion	4
2.3	Innervation	4
2.4	Action	4
3	Therex	4
3.1	Single leg bridge	5

1 OIAN

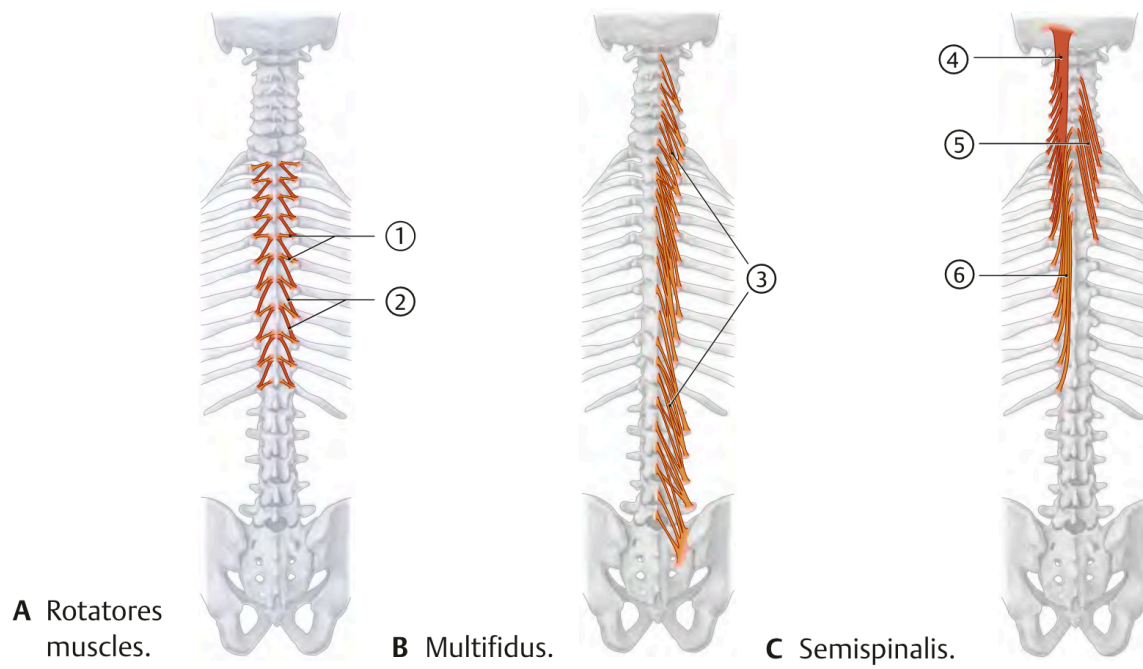


Figure 1: Schematic, posterior view of the transversospinalis muscles¹

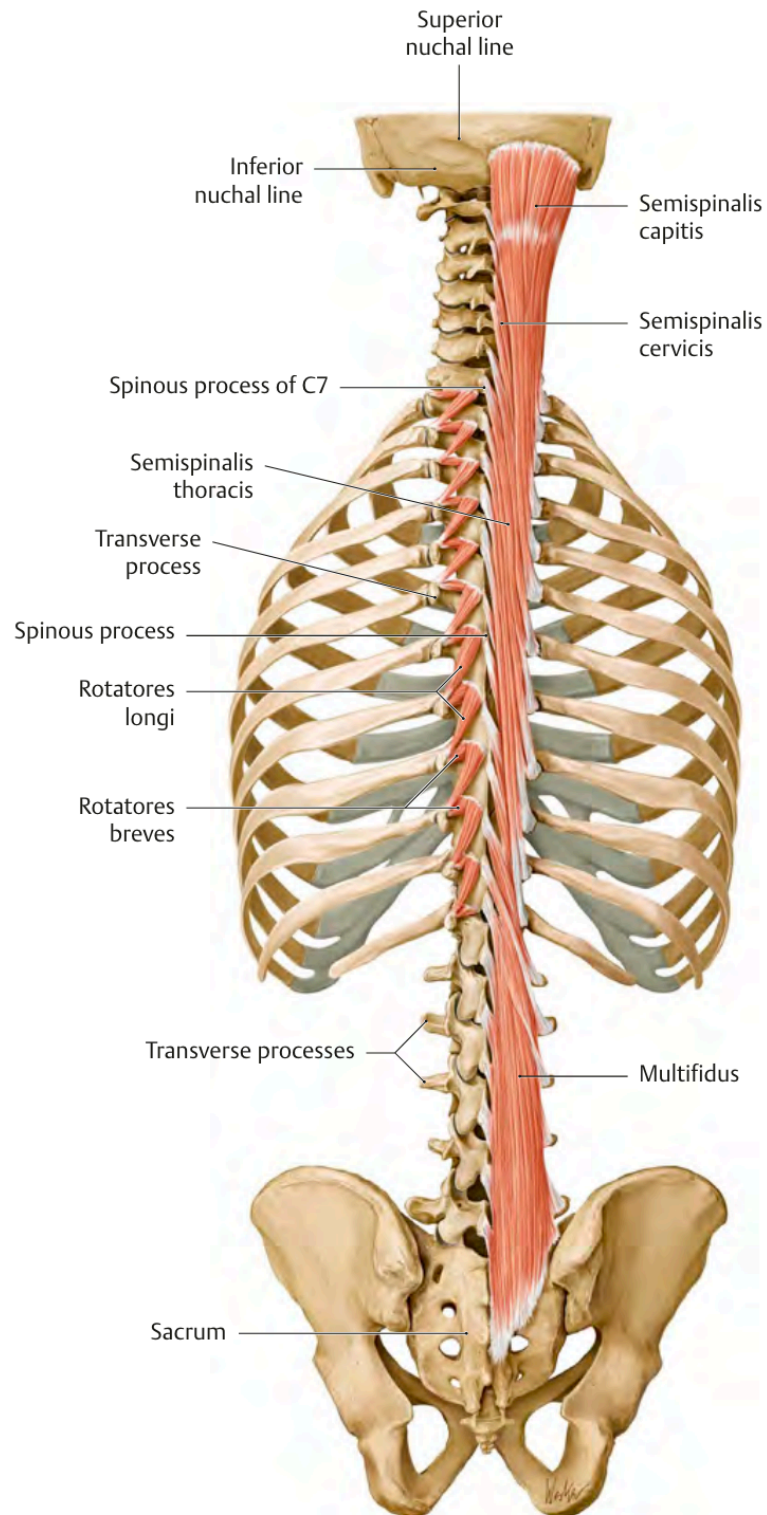


Figure 2: Posterior view of the Transversospinalis muscles¹

Table 1: Multifidus Muscle OIAN

Muscle	Origin	Insertion	Nerve	Action
Multifidi	Sacrum, ilium, mamillary process of L1-L5, T1-T4 (TP and Articular process), C4-C7	Superomedially to SP (skipping 2-4 vertebrae)	Spinal nn. (Posterior Rami)	BIL: Extends extends spine; UNIL: I/L SB and C/L Rotation

2 Multifidus OIAN

2.1 Origin

Sacrum, ilium, mamillary process of L1-L5, T1-T4 (TP and Articular process), C4-C7¹

2.2 Insertion

Superomedially to SP (skipping 2-4 vertebrae)¹

2.3 Innervation

Spinal nn. (Posterior Rami)¹

2.4 Action

- **BIL:** Extends extends spine¹
- **UNIL:** I/L SB and C/L Rotation¹

3 Therex

How to recruit multifidi instead of obliques? One can bias the multifidi over the obliques by performing exercises that require spine extension rather than flexion.

3.1 Single leg bridge

One can recruit the multifidus muscle by having a patient perform a single leg bridge. In this exercise, one will have a leg on the ground (stance leg) and another leg in the air. Both shoulders will remain on the ground the whole time. As an example, we will imagine an individual using their R leg as the stance leg. Since both shoulders are stationary, the weight of the pelvis and raised leg (L) will add a load d/t gravity that pulls the L hip towards the ground, resulting in relative right rotation. Thus, in order to keep the pelvis level, one must perform active left rotation using the R multifidus since the multifidi perform C/L rotation unilaterally. An easy way to remember which multifid you are recruiting during S/L bridge is that the multifidi on the same side as the stance leg is being recruited.

1. Gilroy AM, MacPherson BR, Wikenheiser JC, Voll MM, Wesker K, Schünke M, eds. *Atlas of Anatomy*. 4th ed. Thieme; 2020.