

### Case background

49-year-old tall (6'+), obese male fell down a flight of stairs while taking out garbage

Initially seen in ER, XRay negative & no ultrasound obtained; sent home with a splint

Presented one week later to orthopedics. Repeat evaluation with inability to extend his right leg & difficulty extending his left

Noted to live in a 5<sup>th</sup> floor walk-up prior to admission

### Case description

Exam demonstrated:

- Palpable gap at superior pole of right patella & lack of active knee extension
- Extensor lag of left knee

MRI confirmed bilateral quad tendon rupture

Underwent bilateral surgical repair & discharged to acute rehab with Bledsoe braces locked in full extension

Able to ambulate but restricted from stairs until cleared for 50 degrees of knee flexion (4 weeks post-op)

Strength rapidly increased after flexion clearance with ability to climb stairs prior to DC

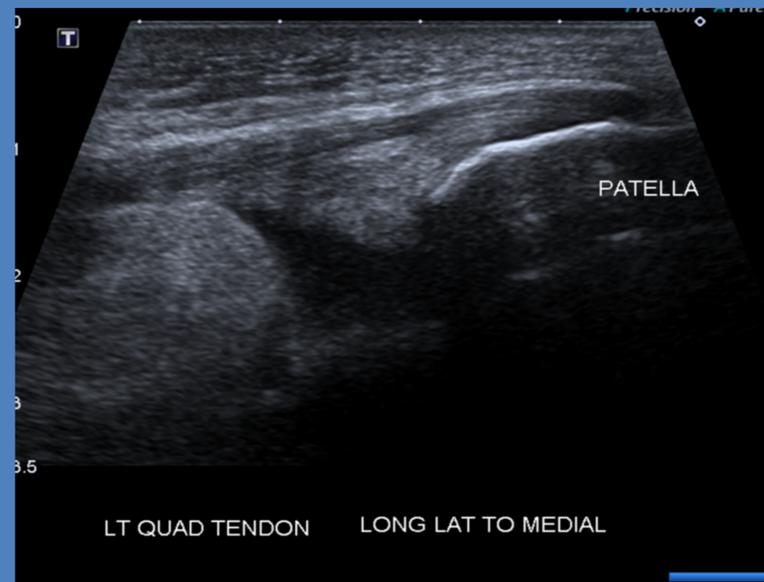
### Discussion

- Simultaneous rupture of bilateral quadriceps tendons is rare: just over 100 case reports in the literature
- A significant number of these cases result from falling down stairs, a position in which the knee is flexed and quads are contracted (likely in an attempt to prevent falling)
- Risk factors for rupture include advanced age, obesity, CKD, steroid use, gout & endocrine disorders.
- Many cases are diagnosed via MRI although ultrasound is available & may allow for more rapid diagnosis & treatment
- In addition, there is currently no standardized protocol for rehabilitation although previous cases report use of locked extension braces for the first 6 weeks followed by progressive quad strengthening.

### Conclusion

- In addition to a thorough physical exam, point-of-care ultrasound should be used in patients with even low suspicion of quadriceps tendon injury to rule out rupture
- Flexion clearance may be required earlier to help quadriceps strengthening and allow for improved negotiation of stairs

### Images



Left: Case courtesy of Dr Bruno Di Muzio, Radiopaedia.org, rID: 48031  
Right: MRI of complete right quadriceps tendon rupture from our patient

### References

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