

# Differential Diagnosis of a Patient s/p Total Knee Replacement

Bettis A; Heath-Byerly, J

Drayer Physical Therapy Institute, Hummelstown, PA

## MISSION STATEMENT

*“To our patients, we commit to provide the most effective, clinically superior physical therapy humanly possible.*

*The measure of our success will be found in the trust we build and in the hearts of those we heal.”*

### Background

A 68 year old female presented to physical therapy four weeks s/p a (L) total knee replacement. Past medical history was significant for history of breast cancer, borderline diabetes and high cholesterol. Although the patient presented post-operatively with limitations in range of motion, strength and function the chief complaint at initial evaluation was generalized knee pain and increased swelling of her bilateral lower extremities, unexplained weight gain and generalized fatigue that had progressed over the past few days. The patient expressed that her concerns had not been addressed by multiple health care professionals she had seen prior to physical therapy evaluation. The patient interview and examination revealed the source of increased swelling bilaterally, unexplained weight gain, and generalized fatigue was likely systemic not from post-operative knee replacement signs and/or symptoms.

### Examination/Evaluation

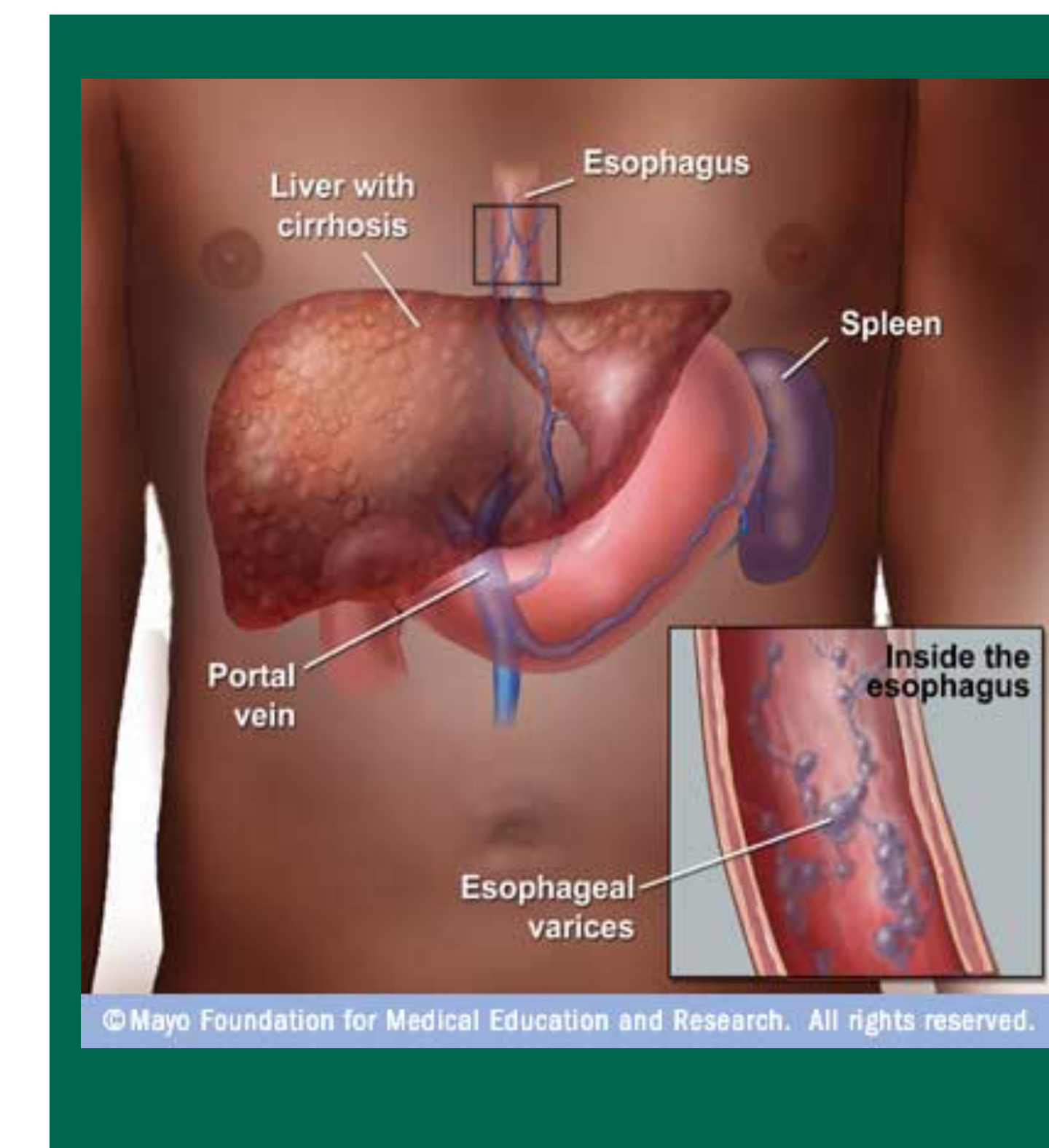
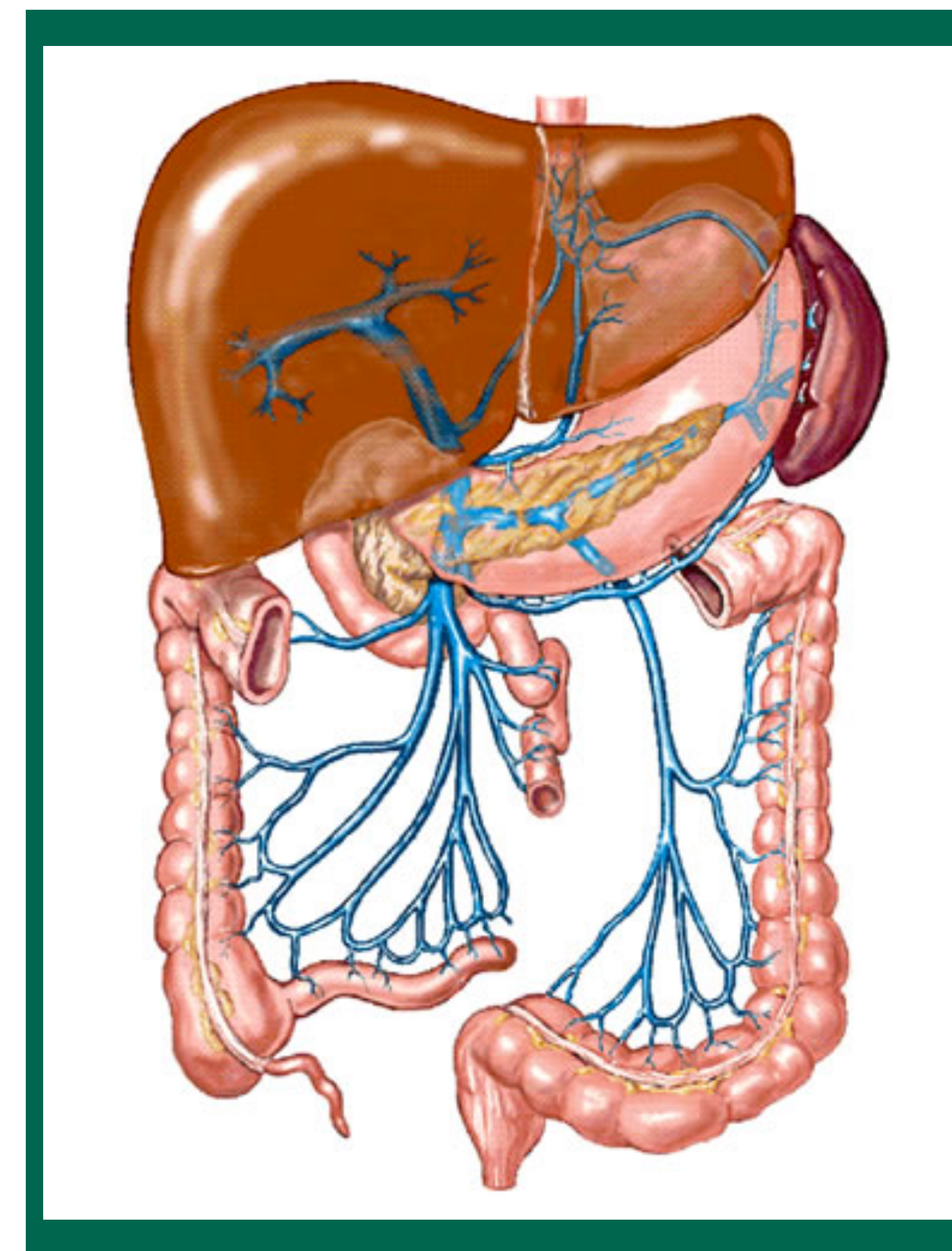


Presented with pitting edema in bilateral lower extremities from the popliteal crease to the digits with shiny appearance, no tenderness to palpation. Further investigation revealed a presence of edema in the left hand and wrist. At that time vitals were taken which did not elicit an emergent need for medical attention but, the patient’s primary care and orthopaedic physicians were contacted to assist with ruling out a DVT. Despite recommendation for further evaluation the patient was referred back to therapy without diagnostics. At that time the treating therapist recommended that the patient be seen again by a physician or emergency room department.

### Outcome/Diagnosis

The patient presented to the emergency room via ambulance due to vomiting of blood clots. Diagnosis was esophageal varices, an enlarged blood vessel caused by a thromboembolism believed to have dislodged in the portal system. The patient underwent immediate surgery to repair the vessel that had ruptured. After discharge from the hospital and medically cleared for rehabilitation the patient returned to physical therapy. She had lost a total of 27 pounds of fluid.

The emergency room physicians hypothesize the patient presented with increased extremity edema and weight gain secondary to a back-up of flow in the portal tension system. She displayed signs and symptoms of this back-up and/or congestive heart failure because of a clot in a major vessel. The patient was able to complete rehabilitation for her total knee replacement and return to previous functional activity level.



### Discussion/Conclusion

According to Wells, the use of clinical prediction rule has proven more reliable for the likelihood of a venous thromboembolism (VTE), compared to clinical signs, if the patient displays two or more of the characteristics. The patient displayed three; major surgery, entire lower extremity swelling, and pitting edema. Using Wells to identify the likelihood of a VTE the therapist was able to recognize the need for further diagnostic testing. The VTE had dislodged creating a life threatening situation. This case stresses the importance of recognizing potential systemic red flags and communication. A physical therapist is a vital member of the health care team and must be an advocate for their patients providing clear and concise communication between all health care members.

### Selected References

- Seyfer AE, Seaber AV, Dombrose FA, et al. Coagulation changes in elective surgery and trauma. *Ann Surg* 1981; 193:210-3
- Wright, Imelda. Esophageal varices: treatment and implication. *Gastroenterology Nursing* Vol. 21 (1) 1998; 2-5
- Lawson, Debra. Comparing Outcomes of Patients Following Total Knee Replacement: Does Frequency of Physical Therapy Treatment Affect Outcomes in the Acute Care Setting? A Case Study. *Acute Care* prospective. 2009; 13-18
- Edge AJ, Denham RA. The Portsmouth method of external fixation of complicated tibial fractures. *Injury* 1979; 11 :13-18.
- Grimer RJ, Karpinski MRK, Edwards AN. The long-term results of Stanmore total knee replacements. *J Bone Joint Surg [Br]* 1984;66-B :55-62.
- Lettin AWF, Kavanagh TG, Scales JT. The long-term results of Stanmore total knee replacements. *J Bone Joint Surg [Br]* 1984;66-B :349-54.
- Merkel KD, Johnson EW. Supracondylar fracture of the femur after total knee arthroplasty. *J Bone Joint Surg [Am]* 1986; 68-A :29-43.
- \*\*\*Additional references available upon request

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