

**Prosthetic Knees:
Overview & Classification
Test**

1. According to the Medicare classification system, which prosthetic knees are available to a prosthesis user that is a limited community ambulator?
 - a. Fluid friction knees
 - b. Pneumatic friction knees
 - c. Single axis knees
 - d. Basic Knees
 - e. All of the above
2. Select the patient(s), according to Medicare, who is a candidate(s) for a Mauch S-N-S knee with XG frame
 - a. 65 yr old male, blind, bilateral KD, lives in nursing home
 - b. 21yr old female, standard length TFA, college student, variable cadence
 - c. 40 yr old male, household ambulator, doesn't drive a car, uses power wheel chair on occasion
 - d. A and B only
 - e. All the above
3. According to basic indications/contraindications and according to Medicare, which patient(s) is/are candidates for a manual locking knee
 - a. 65 yr old male, blind, bilateral KD, lives in nursing home, transfer/therapeutic prostheses only
 - b. 65 yr old female, unilateral TFA, lives with spouse, limited household ambulation
 - c. 40 yr old male, unilateral short TFA, falls 2-3 times per month due to clearance problems in swing
 - d. A and B
 - e. A and C
4. The "Inherent Stability" of a prosthetic knee joint can be influenced by
 - a. The position of the knee center relative to the weight line
 - b. Microprocessor control
 - c. Geometric locking mechanism
 - d. B and C only
 - e. All of the above
5. Which list is appropriately arranged from least inherently stable to most inherently stable:
 - a. Polycentric, single axis, manual locking
 - b. Weight activated stance control, polycentric, single axis
 - c. Polycentric, weight activated stance control, manual locking
 - d. Single axis, weight activated stance control, polycentric
 - e. Outside hinges, polycentric, weight activated stance control
6. Which knee(s) is/are most likely to yield gait deviations
 - a. Manual locking knee
 - b. Weight activated stance control knee
 - c. Polycentric knee

- d. A and B
 - e. All the above
7. Which of the following best describes the theoretic location of the instantaneous center-of-rotation of a polycentric knee in extension relative to the theoretic location of the former anatomic knee center?
- a. Proximal/posterior
 - b. Proximal/anterior
 - c. Distal/anterior
 - d. Distal/posterior
 - e. Same level/anterior
8. Extension Aid/Assist features serve to
- a. Decrease heel rise
 - b. Prevent the user from loading a flexed knee at heel strike
 - c. Increase the rate and force of knee extension
 - d. B and C
 - e. All the above
9. Microprocessor knees
- a. Are not affected by bench alignment
 - b. Do not need dynamic alignment
 - c. Only need adjustment through the computer
 - d. A and B only
 - e. None of the above are correct
10. Which of the following knees is the best choice for a 28 year old police officer, who bicycles, rock climbs and takes extended camping trips lasting up to two weeks at a time?
- a. Total knee
 - b. C leg
 - c. Mauch SNS with XG frame
 - d. Weight activated stance control knee
 - e. Single axis constant friction knee
11. Which type of prosthetic knee is the best choice for a 20 year old female, who is a college student born with proximal focal femoral deficiency. She walks long distances on campus, and while shopping in the local mall. She has a very long residual limb with poor hip strength. Additionally, she has trouble clearing her prosthetic foot during swing and falls “on occasion”.
- a. Weight Activated stance control knee
 - b. Manual locking knee
 - c. Single axis constant friction knee
 - d. Polycentric knee
 - e. Outside hinges
12. Which of the following is NOT considered in the three primary prosthetic knee classification schemes?
- a. Presence of Microprocessor control
 - b. Swing and Stance Control
 - c. Voluntary Control
 - d. Functional level

- e. Number of axes
13. Which of the following is “MOST STABLE” at the given instant?
- a. Outside hinges at toe off; static alignment is knee center $\frac{1}{4}$ inch posterior to weight line
 - b. Weight activated stance control knee, under load with 20 degrees of flexion whose static alignment is knee center at $\frac{1}{2}$ inch anterior to weight line
 - c. Mauch knee with weight line falling $\frac{1}{2}$ ” anterior to knee center at heel strike
 - d. Total knee just after midstance; static alignment is as recommended by manufacturer
 - e. Manual lock knee, switch just activated to sit, static alignment is weight line through knee center
14. “Swing and Stance” refers to
- a. A knee’s resistance to buckling under load
 - b. Cadence control
 - c. The ability to vary swing rate
 - d. A and C
 - e. All of the above
15. Stance Flexion is
- a. Necessary for ambulation
 - b. Necessary with all microprocessor knees
 - c. Used to attenuate shock
 - d. B and C
 - e. All of the above