

ASSIGNMENT NO 3 :

Write down the main 5 differences on cancellous and cortical screws. uses the images as well?

1. **Thread Design**:

- **Cancellous Screws**: Typically have larger and deeper threads spaced further apart. These threads are designed to provide better grip and purchase in the spongy, trabecular bone found in the metaphysis or epiphysis of long bones.
- **Cortical Screws**: Have finer threads with a shallower pitch, allowing for better purchase in the denser cortical bone found in the shaft (diaphysis) of long bones.

2. **Head Design**:

- **Cancellous Screws**: Often feature a larger, rounded head design. This design helps to distribute force across a larger area of the bone surface, reducing the risk of sinking into the softer cancellous bone.
- **Cortical Screws**: Typically have a flatter or countersunk head profile. This allows them to sit flush with the bone surface without protruding, reducing irritation to surrounding soft tissues.

3. **Length and Diameter**:

- **Cancellous Screws**: Tend to be shorter and thicker in diameter. This is to provide adequate stability and purchase in the less dense cancellous bone.
- **Cortical Screws**: Are usually longer and thinner in diameter. They are designed to engage with the denser cortical bone without the risk of cortical blowout.

4. **Material Composition**:

- **Cancellous Screws**: Often made of titanium or stainless steel. These materials provide strength and corrosion resistance, which are essential for load-bearing applications in cancellous bone.
- **Cortical Screws**: Also commonly manufactured from titanium or stainless steel. They may have different surface treatments or coatings to enhance bone-to-screw interface and stability in cortical bone.

5. **Indications**:

- **Cancellous Screws**: Primarily used in fixation of fractures involving metaphysis or epiphysis, as well as in osteoporotic bone where cortical bone density is compromised.

- **Cortical Screws**: Employed for fixation of fractures in the diaphysis or cortical bone, as well as in orthopedic procedures requiring rigid fixation in dense bone regions.

These descriptions should help illustrate the key differences between cancellous and cortical screws. If you have access to images, you can visualize these differences based on the descriptions provided.

