

# An Educational Guide to Bone Screws



Bone screws are orthopedic implants that are used for the surgical treatment of fractures and other orthopedic conditions like malunions or non-unions. They are the most commonly used orthopedic devices during orthopedic surgeries. Bone screws can be used alone for bone-to-bone or bone-to-tissue fixation or with other [trauma implants](#) like orthopedic plates. In this post, we will have a detailed look at what bone screws are along with their types and uses.

## What Are Bone Screws?

Bone screws are cylinder-shaped medical tools that have spiral threads on their outer surface. These threads help screws fix firmly into the bone and provide resistance against vibration loosening.

They are used to fix fractured bone fragments in their correct anatomy and keep them in place while the fracture heals. There may be different purposes for using bone screws:

- Attaching orthopedic implants to bone

- Bone-to-bone fixation

- Soft tissue to bone fixation

## **How do Bone Screws Work?**

Orthopedic screws work by converting torsional forces into compression. The threads present on the shaft of the screw generate linear motion when the screw is rotated. This pushes the screw into the bone and creates a firm hold with its corresponding threads. The hole in which the screw is applied is either threaded to match the screw thread or the threads are cut by the screw being applied.

## **What Are the components of Bone Screws?**

Orthopedic screws have three parts i.e., head, shaft, and tip.

### **Head**

The head is the topmost part of bone screws. It has multiple functions including:

It provides a buttress to prevent the screw from sinking into the bone. If required, the orthopedic surgeon can also use a washer below the head to increase the size of the buttress.

Besides this, the head also provides a slot for the screwdriver to apply screws by creating torque.

### **Shaft**

The shaft is a long section that starts right below the thread and ends just above the tip. It is the place where the threads are. Threads in some screws are more and in some, the numbers are less. They are used specifically depending on the type and the location of the fracture.

### **Tip**

A tip is a place where the screw ends. The shape of the tip also varies according to the screw design. The common types of screws that are used include:

Self-tapping

Non-self-tapping

Self-drilling

Self-tapping and self-drilling

## **What Are the Types of Bone Screws based on their Function?**

Based on their function, bone screws can be classified as:

Neutralization screws

Lag screws

Reduction screws

Position screws

Anchor screws

Locking screws

### **From Which Material Bone Screws Are Made?**

Bone screws are made using medical-grade stainless steel, titanium, and bioabsorbable screws. Metal screws are more commonly used when compared to non-metal ones. However, when it comes to using bioabsorbable screws, there are several advantages as they do not interfere with MRI machines and there is no need to remove them later.

For a CE-certified range of orthopedic devices including orthopedic screws, contact Siora Surgicals Pvt. Ltd. The company is a renowned orthopedic device manufacturer in India and is also known as a regular exhibitor at [FIME Medical](#) Expo.

### **Contact Information**

**Siora Surgicals Pvt. Ltd.**

**Address:** WZ- 1, 2nd Floor, Phool Bagh, RamPura New Delhi, India

**Mobile:** +(91)-9810021264

**Email:** [online@siora.net](mailto:online@siora.net)

**Source:-** <https://www.cleansway.com/blog/an-educational-guide-to-bone-screws>