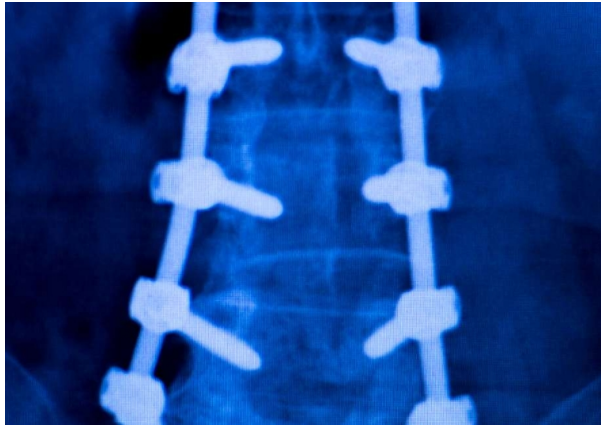


# Spinal Implant Testing



## What Is Spinal Implant Testing?

**Spinal implant** testing evaluates the **effectiveness and durability of spinal implants** to ensure they are suitable for medical use. Spinal implant testing involves a series of different assessments that test how an implant responds to **mechanical loads, tension, compression, and torsion**.

Spinal implant testing is crucial since implants need to be able to withstand **real-life conditions** where the spine is put through different pressures. Since spinal implants are vital for **correcting deformities** and **stabilising the spine**, guaranteeing their durability and robustness is paramount.

## What Spinal Implant Testing Services Do We Offer?

[Applus+ Laboratories](#) conducts the rigorous **spinal implants testing** required to make sure they meet international standards for **spine correction** and **vertebral support**. In our laboratories, spinal implants are tested both statically and dynamically for different loading scenarios.

## What Ranges and Standards Are Involved in Our Spinal Implant Testing?

Spinal implants are tested for **three testing ranges: spinal fixators (screw-rod system), fusion implants, artificial discs**. These ranges are covered by the following standards that simulate what a spinal implant will go through during its lifetime.

- **ASTM F1717**

We test for the mechanical performance of spinal implant assemblies in a vertebrectomy model, covering static, fatigue, and torsional strength.

- **ASTM F2077**  
We evaluate the mechanical performance of intervertebral body fusion devices under static and dynamic loading conditions.
- **ASTM F2267**  
We measure the axial compressive strength and subsidence behaviour in the bone of intervertebral body fusion devices.
- **ASTM F2193**  
We also measure and report the mechanical characteristics of spinal fixation devices, including screws, rods, connectors, and their assemblies.

## What Are the Benefits of Spinal Implant Testing?

Due to the spine's importance for **overall mobility, structural stability**, and the **protection of the central nervous system**, complying with standards is incredibly important and spinal implant testing can help **improve [materials](#)** and structure to get the implant to market as quickly as possible.

### Improving Safety and Efficiency for Spinal Implants

With the introduction of **more innovative materials** for implants, conducting thorough spinal implant testing is an essential step to ensure that these materials are both safe and **in line with regulatory standards**. These rigorous assessments help in evaluating the safety and efficacy of materials, fostering innovation while ensuring that **safer products are provided to patients**.

### Compliance with International Standards for Spinal Implants

Adhering to international standards facilitates **wider [market access](#)** for your spinal implants, significantly **speeding up the development-to-market process** for international expansion. Since these standards are **internationally recognised**, compliance strengthens your standing in the global marketplace.

## Why Choose Applus+ Laboratories for Spinal Implant Testing?

Choosing Applus+ Laboratories for your spinal implant testing means you're collaborating with **a leader in medical device testing solutions**.

Our services adhere to the **highest quality standards**, conforming to ASTM and ISO requirements, guaranteeing precision and dependability in your spinal implant products. With our **extensive testing capabilities** and **dedication to customer service**, we are your ideal partner for comprehensive spinal implant testing.



Applus+ Laboratories aims to serve as your **all-in-one solution** for [medical device testing](#), providing a complete spectrum of services that help accelerate your product's market entry. We offer:

- Test plans definitions
- Prototypes manufacturing
- Testing across the full product lifecycle
- Product and process qualification, including batch release testing
- Contract Manufacturing Organisation (CMO) services

**Operating in multiple countries**, we deliver our testing services globally, ensuring you receive top-tier spinal implant testing wherever you are located.

Let Applus+ Laboratories be your **trusted partner in spinal implant testing**. We are ready to support your projects with our expert services and seasoned advice.