

RWTH Technology

2-axial plate system for pelvic ring fractures



Challenge

Pelvic ring injuries still pose major challenges to surgeons. Due to high lethality rates, pelvic ring fractures are of high importance in terms of stabilization and treatment. Nowadays, a simple plate implant, which is implanted cranially, is used as standard for treatment. Due to high physiological stresses, such simple plate implants often fail and may loosen over time.

Solution

Optimal mechanical design, which allows higher mechanical strength (1) and easier insertion (2).

Regarding (1): the L-shaped design allows the pubic bones to be screwed horizontally and vertically, resulting in an even distribution of the load on the physiological forces. In addition, the torque on the screws is reduced, which in turn leads to a lower load on the plate itself.

Regarding (2): the plate has a protrusion that facilitates proper alignment of the plate to a first pubic bone before the two pubic bones are aligned. The second pubic bone is guided into the correct anatomical position along the L-shaped design of the plate. This eliminates the need to ensure the correct alignment of the pubic bones beforehand.

Advantages

- Improved reliability against implant failure Advantage 2
- Patient-friendly and simplified implantation compared to standard plate implants
- Positioning protrusion, for easier alignment on the pelvic bone

Status

RWTH Innovation GmbH

RWTH Technology
#2020-0754

Fields of application

Medical devices, trauma surgery,
pelvic ring fractures

Keywords

#symphysis rupture; #pelvic ring
fracture: #trauma surgery; #implant;
#osynthesis

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- Patent application at the German Patent and Trademark Office. Patent application not yet disclosed. RWTH Aachen University cannot derive any rights against third parties from the patent application, which has not yet been disclosed.
- Development status: Proof of concept and ongoing research.

RWTH Aachen University is looking for partners for patent exploitation or research partners for development cooperation.