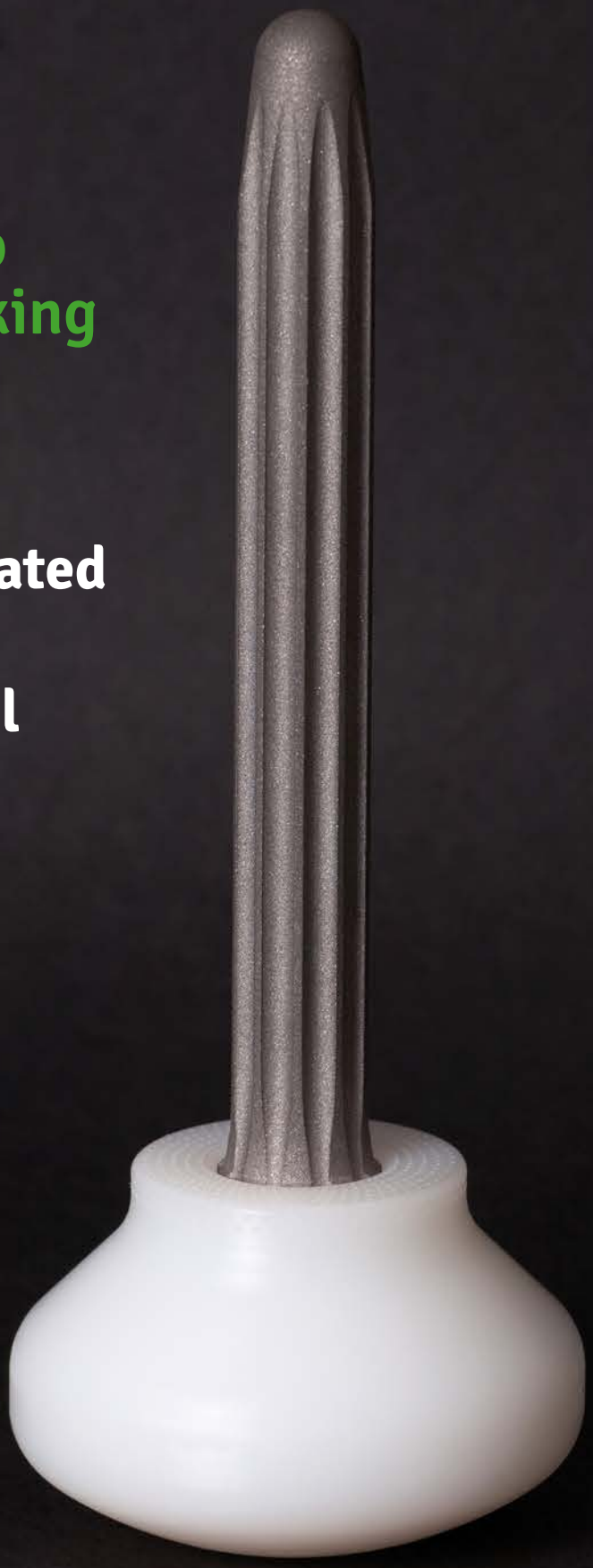
Keep Walking

Distal load Osseointegrated implant for transfemoral amputees



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Keep Walking Implant

The implant is inserted into the medullary canal of the femur, therefore providing a bearing surface at the end of the limb. It relieves typical problems found in transfemoral amputees.

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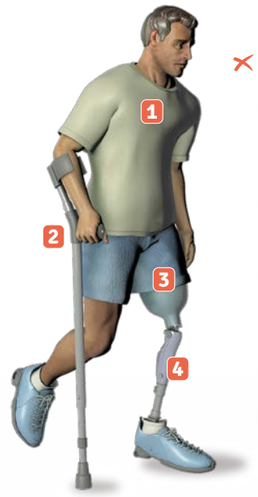
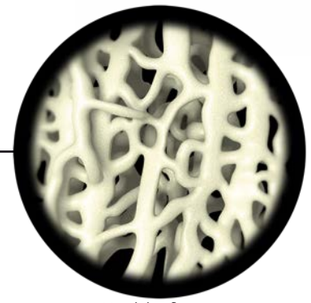


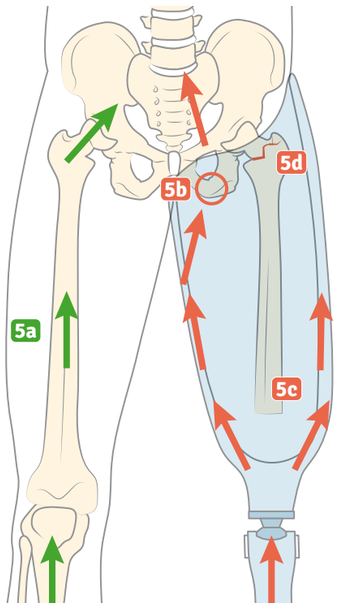
✕ Problems with amputees

1. **Fatigue**
   Patients consume more oxygen due to the extra effort they have to make.
2. **Gait changes**
   Need more walking support.
3. **Problems with the stump**
   Stump volume changes, sweating and pain.
4. **Poor control of the prosthesis**
5. **Osteoporosis of the femur**
   Due to the lack of load transmissions to the femur.



Healthy femur

Femur with osteoporosis



Load Transmission

The change in load transfer patterns develops in femur osteoporosis.

- 5a **Healthy leg**
  The weight loads pass through the femur, thereby maintaining bone mineral density.
- 5b **Amputated Leg**
  The load forces pass from the prosthetic leg to the socket and from here to de ischium and spine.
- 5c The distal end of the femur hardly receives any loads.
- 5d This weakens the bone structure increasing fracture risks.

✓ Benefits of the implant

1. **Greater resistance**
   Self-dependence increases.
2. **Improved Biomechanics**
   Less support is required.
3. **Less socket discomfort**
   Ischium support is reduced. Socket ventilation openings can be incorporated.
4. **Greater control of the prosthesis**
5. **Improvements in the femur**
   The implant provides distal support in the socket so the femur bears weight again.

Parts of the Keep Walking Implant

It can be used on amputated patients or whilst undergoing amputation surgery.

Stem

It is press-fit inserted into the medullary canal of the femur. The stem is made of grooved titanium with a rough surface for secondary fixation by osteointegration

Spacer

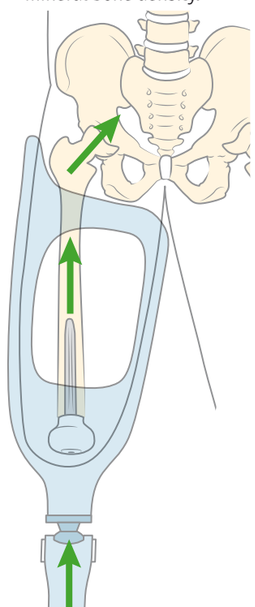
It is made of rounded polyethylene in order to create a wide and comfortable surface for distal weight bearing.

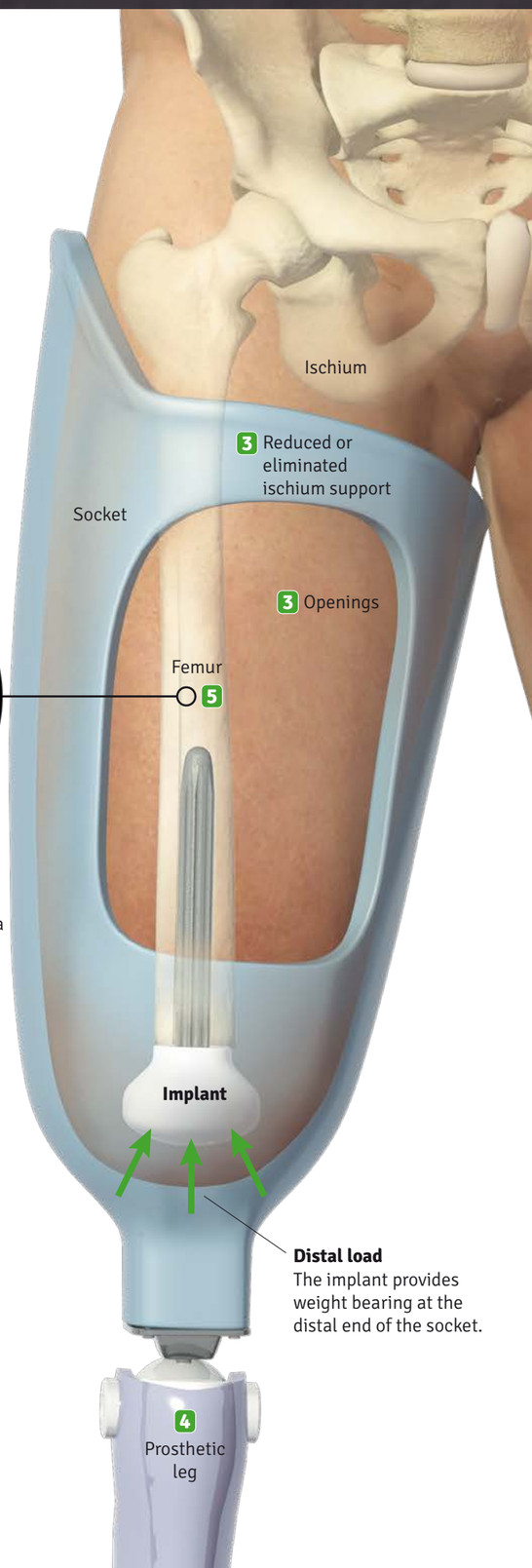
Plug-Screw

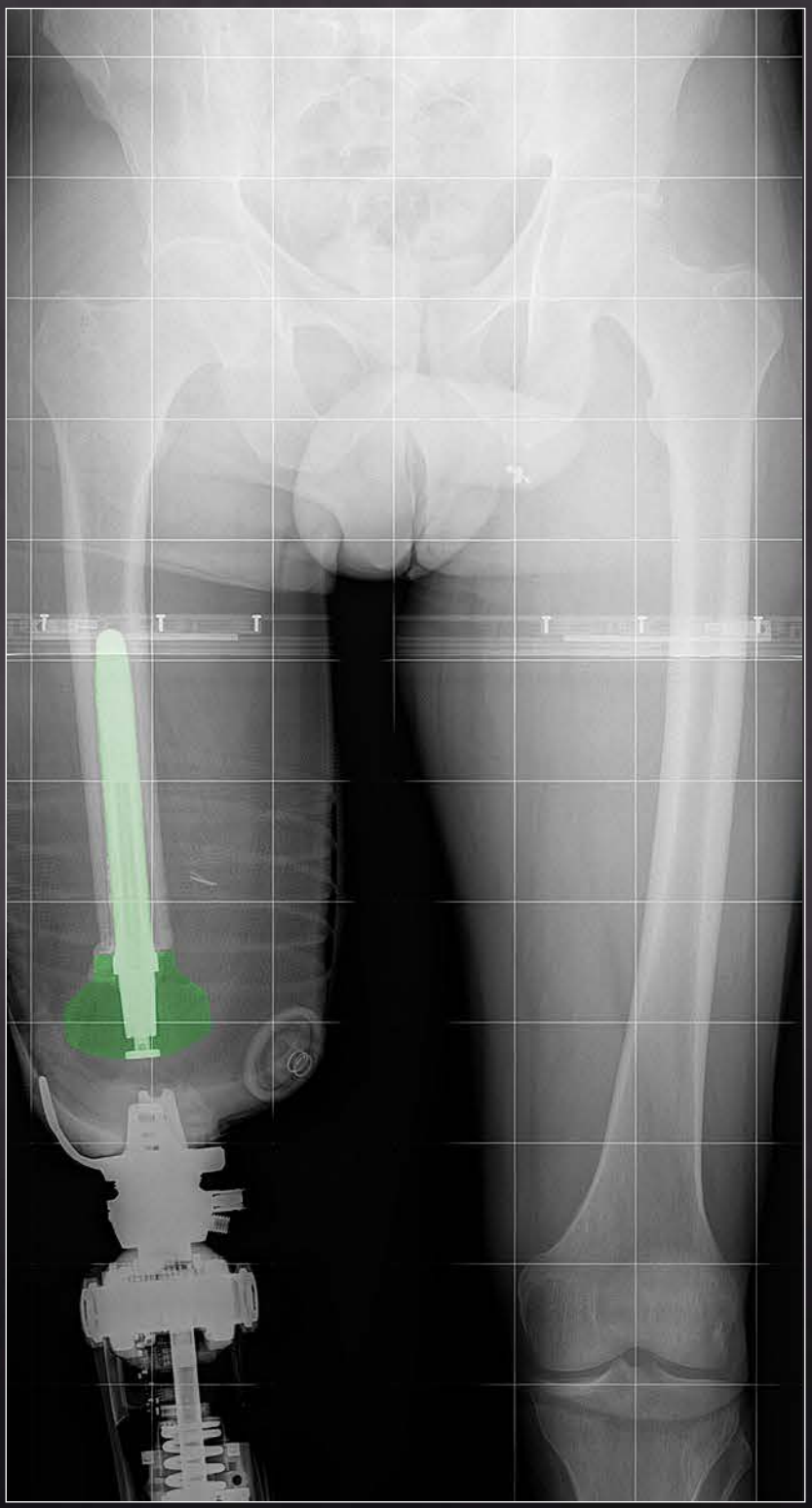
For implant assembly. It enables the evolution of the implant into a direct skeletal attached system (still under development).

Healthy femur

5 Weight loads are transmitted via the femur, therefore recovering mineral bone density.







For Further information:

Keep Walking

www.keepwalkingimplant.com

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