Osseointegration of the lower limb:
Reduction of mechanical strain on the abutment

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Introduction  The osseointegration improves the quality of life for amputees and brings indolence \cite{1}.

Unlike a socket, the abutment concentrates stresses. The tall and heavy patients have to face break of abutment. Abutment's changes have to be done in operating room under general anesthesia.

In the case of a patient varus/valgus, how to reduce the mechanical stresses on the abutment in order to reduce the frequency of changing this critical part?

Materials and methods  This study has focused on a patient valgum osseointegrated since January 2012 and in very good health.

We have evaluated in static position (bipodal support, without speed or acceleration, frontal plane) mechanical stress at the junction abutment–implant in three different cases:

- a better ambulation;
- a sharp reduction of flows all around the abutment;
- a reduction of strain and increases the life of the abutment for all patients;
- decreases patient's anxiety.

Keywords  Osseointegration; Reduction of mechanical strain; Titanium OPRA

Disclosure of interest  The authors declare that they have no conflicts of interest concerning this article.

References

\cite{1}  Branemark R, Bahuaud J, Bertrand M. 2006.
\cite{2}  Kaphingst, Fitzlaff. 1990.

Further reading

Perez J.P. Mécanique points matériels, solides, fluides. 1995
http://dx.doi.org/10.1016/j.rehab.2015.07.049
between decreased QOL, level of amputation and comorbidity. On
the other side, no effect of age, sex and evolution of the
amputations were objectified on QOL.

Discussion and conclusion  QOL is a concept difficult to define and
to assess in the amputee because of lack of specific scale. However,
this concept becomes determinant in the care of amputees.
Improving the quality of life for amputees and preserving it
involves necessarily better mobility, maintained psychological
state and indolence. This requires a close collaboration between
different contributors to treat each patient.

Keywords  Lower-limb amputation; Quality of life; Orthosis

Disclosure of interest  The authors declare that they have no
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Further reading  Zidarov D, et al. Quality of life of persons with lower-limb ampu-
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