

## RESTORATION OF FEMORAL OFFSET IN TOTAL HIP ARTHROPLASTY: IS IT POSSIBLE?

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### Abstract

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Femoral off-set is the perpendicular distance between femur longitudinal axle and the femoral head's rotation's centre. Femoral off-set influences following yardsticks: stability of the joint, range of movement (ROM), muscular forcibleness, solicitations on the femoral component and acetabular component's usury. From numerous radiographies studies, is shown as off-set is not an infeasible measure, but an average with a range of variability. Offset is one of the most important yardsticks to consider during the pre-operating planning since, as is broadly documented, it has a positive effect on the functionality of the prosthesis; difficulty remains to individualize the optimal offset value in patient with bilateral coxofemoral pathology or carriers of opposite side total hip prosthesis. Modular necks act independently in three spatial variables allowing to reach 27 points in the space, disposing of heads with three lengths the real disponibility become of 81 points.

Usually we estimate the sizes and the orientation of the components manually and through a radiographic intra-operative control in order to choose the best match head-neck.

If we make a minimum mistake in cup position, the use of modular necks allow to correct this failure to obtain the most correct anatomic position producing negligible debris and the reduction of the mechanic stress.

Basing on our experience we think that the possibility to change length and version independently and sequentially is the unique technique available to correct the implant's orientation, even if in our series we have choose neutral neck in most cases. To obtain better functional outcome we are studing a device based on gait analysis and superficial electromyography to calculate pre and post operative off-set. The data that we have achieved are still too few to be able to produce results; if there is possible, presenting them in future editions.

### Footnotes

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