# EXACTECHI**HIP**

**Primary Femoral Solutions** 

The Novation<sup>®</sup> Element's<sup>®</sup> tapered-wedge stem philosophy and its extensive hydroxyapatite coating, utilizes design and surgical technique principles based upon more than 25 years of clinical use.<sup>1</sup> This bone-conserving system is designed to provide initial stability and biologic fixation while providing surgeons with a simple broach-only system that is flexible enough to accommodate various surgical approaches.<sup>1,2</sup>

Novation<sup>®</sup> Element<sup>®</sup>

- Lineage: Design and surgical techniques based upon more than 25 years of clinical use.<sup>1</sup>
- Bone Conservation: Optimized neck geometry conserves 2mm of bone at the femoral osteotomy.<sup>2</sup>
- *Simplicity:* Proportional neck lengths reduce neck resection and are designed to optimize joint kinematics.<sup>3</sup>

### **TECHNICAL REPORT**

A Hip Prosthesis designed for Joint Reconstruction in Patients with Small Femoral Anatomy<sup>2</sup>

A. Lewis

Hip arthroplasty has proven to be an effective treatment for joints damaged by disease and trauma throughout the world. The femoral stem prostheses used in hip arthroplasty are designed to recreate natural femoroacetabular biomechanics and restore patient mobility and comfort. Within the worldwide patient population, there exists a subset of patients with small femoral anatomy. The purpose of this study is to compare anthropometric data of the proximal femur to hip prostheses with both fixed and proportional neck lengths. It was hypothesized that a hip prosthesis with proportional neck geometry will be compatible with a larger percentage of patients within the small femoral anatomy subset of the population. Femoral head offset, which is a function of neck length, was identified as a parameter which can be used as an indicator of compatibility between the proximal femur and the prosthesis. Natural femoral head offset data was gathered by reviewing the literature. A hip prosthesis with a fixed neck length for all implant sizes was then identified and the femoral head offset values were recorded. Based on anthropometric data, a proportional neck length monobloc prosthesis was developed. A theoretical comparison and template study was conducted to evaluate the compatibility of the fixed and proportional neck length prostheses with a sampling of the patient population.

#### **OPERATIVE TECHNIQUE HIGHLIGHTS**

The images below provide highlights of the efficient technique.



**Proximal Femoral Exposure** 



Femoral Broaching

## **REDUCED OFFSET FEMORAL STEM**

	Collarless	Collarless	Collared
Size (mm)	Standard Offset	Extended Offset	Standard Offset
8	164-11-08	164-12-08	164-13-08
9	164-11-09	164-12-09	164-13-09
10	164-11-10	164-12-10	164-13-10
11	164-11-11	164-12-11	164-13-11
12	164-11-12	164-12-12	164-13-12

#### **FEMORAL STEM**

	Collarless	Collarless	Collared
Size (mm)	Standard Offset	Extended Offset	Standard Offset
8	164-01-08	164-02-08	164-03-08
9	164-01-09	164-02-09	164-03-09
10	164-01-10	164-02-10	164-03-10
11	164-01-11	164-02-11	164-03-11
12	164-01-12	164-02-12	164-03-12
13	164-01-13	164-02-13	164-03-13
14	164-01-14	164-02-14	164-03-14
15	164-01-15	164-02-15	164-03-15
16	164-01-16	164-02-16	164-03-16
17	164-01-17	164-02-17	164-03-17
18	164-01-18	164-02-18	164-03-18



Femoral Stem Insertion



Femoral Head Impaction

REFERENCES

- 1. Vidalain, JP, et al. (Eds.) The Corail® hip system : a practical approach based on 25 years of experience. 2011. 1st ed; p 9,70.
- 2. Data on file at Exactech. TS-2011-056 Novation Element® 2012 EFFORT Abstract.

3. Data on file at Exactech. TR-2011-051. Novation Element® Size 8-11 Proportional Neck Template Study Report.

\*Laboratory tests are not necessarily predictive of clinical outcomes.

Exactech, Inc., as the manufacturer of this device, does not practice medicine, and is not responsible for recommending the appropriate surgical technique for use on a particular patient. Prior to use of this system, the surgeon should refer to the product package insert for comprehensive warnings, precautions, indications for use, contraindications and adverse effects.

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