

## Catalogue Numbers

Number:	Description:
XPMH48	Box with <b>2 pcs</b> of ø48 Measuring Heads
XPMH50	Box with 5 pcs of ø50 Measuring Heads
XPMH52	Box with 5 pcs of ø52 Measuring Heads
XPMH54	Box with 5 pcs of ø54 Measuring Heads
XPMH56	Box with 5 pcs of ø56 Measuring Heads
XPMH58	Box with 5 pcs of ø58 Measuring Heads
XPMH60	Box with 5 pcs of ø60 Measuring Heads
XPMH62	Box with 5 pcs of ø62 Measuring Heads
XPMH64	Box with <b>2 pcs</b> of ø64 Measuring Heads
XPMH66	Box with <b>2 pcs</b> of ø66 Measuring Heads
XPHA1	Box with one Handle fitting all sizes of Measuring Heads

**X-pander is patented:** DK 174 848, EP 1 555 939, US 7 331 965

**MEDICHAL**  
Engineering

Medichanical Engineering ApS  
Havneparken 2, 7100 Vejle  
Denmark  
Phone: +45 31111731  
E-mail: info@medichanical.com

[www.medichanical.com](http://www.medichanical.com)

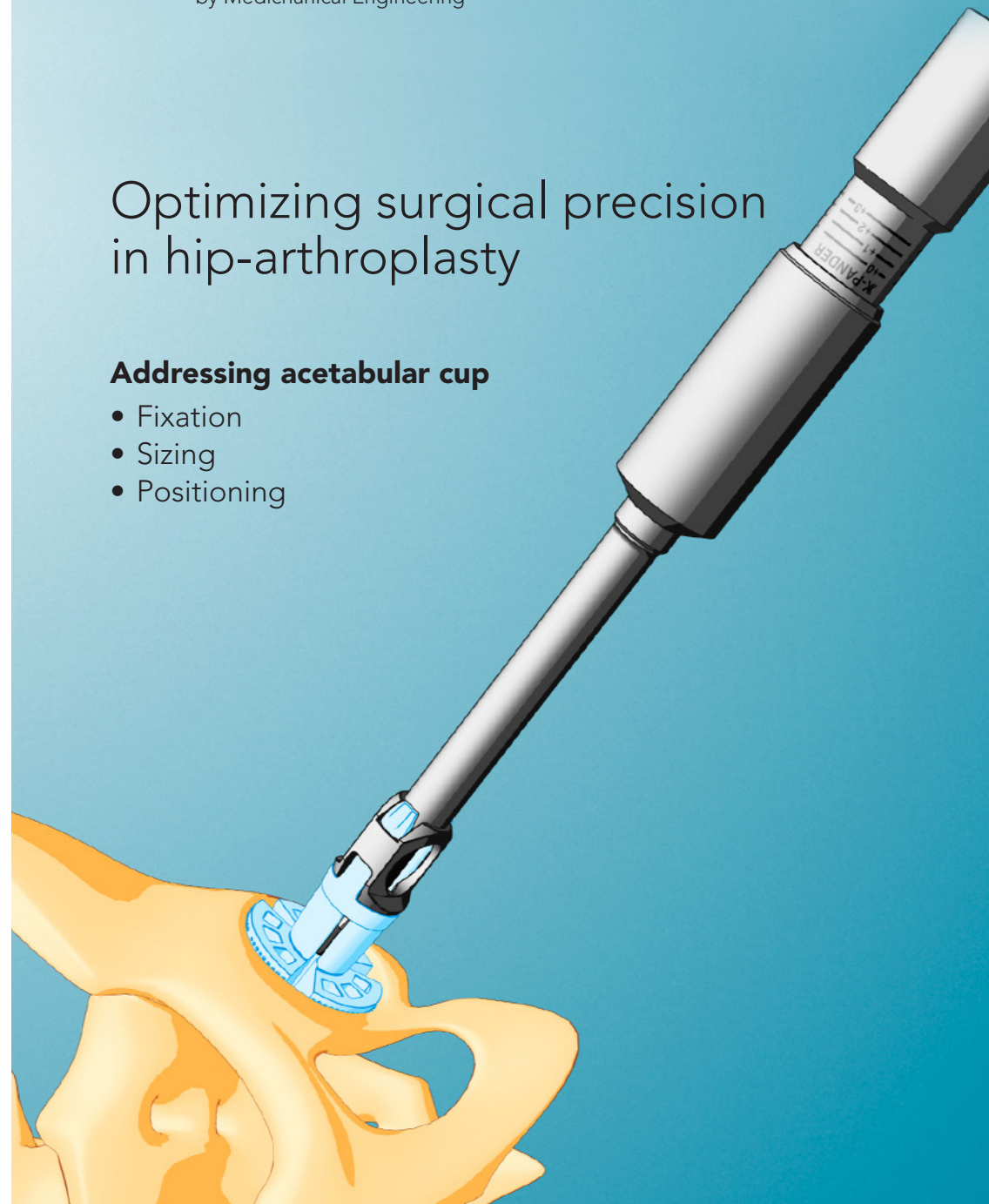
# X-PANDER

by Medichanical Engineering

## Optimizing surgical precision in hip-arthroplasty

### Addressing acetabular cup

- Fixation
- Sizing
- Positioning



## Background

Scientifically documented sub-optimal clinical outcomes of cementless press-fit cup-fixations have led a team of experienced orthopedic surgeons to participate in the development of X-pander.

## Description & Benefits

X-pander is a surgical precision tool for per-operative dynamic measurement of the acetabular properties, thereby providing the surgeon with tactile information about the acetabular cavity by achieving:

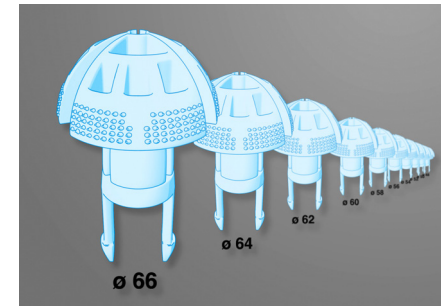
- Dynamic measurement of the **acetabular diameter** after reaming
- Indication of the **reamed acetabular geometry**
- Indication of the **acetabular bone quality**
- Indication of **optimal cup positioning**
- Adequate **cup sizing**

Implementing this measurement technique as a routine will provide the surgeon to achieve safe and efficacious cup fixation by optimizing rim fit, proper sizing and cup orientation. Based on clinical literature this is expected to result in better clinical outcomes and fewer early and late revisions.

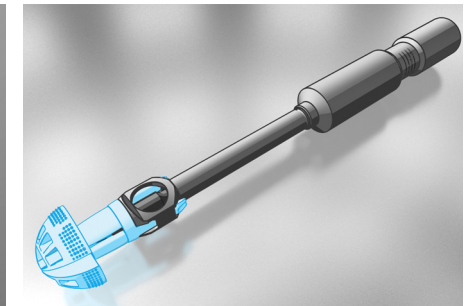
## X-pander Components

X-pander consists of a reusable steel Handle and a disposable polymer Measuring Head, resembling a porous coated cup, that attaches to the handle with an easy "click-on" function.

By manually turning the Handle part, the Measuring Head can expand its diameter up to 3mm and is available in 10 individual sizes with 2mm increments, covering the span from 48mm – 68mm in diameter.



10 sizes of Measuring Heads



Handle with attached Measuring Head

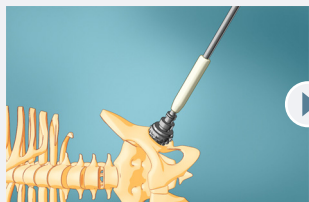
## Clinical Experience

A clinical safety and efficacy trial has been performed over 3 steps in the period 2011-2014. The trial included 100 patients operated by 9 hip-surgeons in two separate clinics in Denmark.

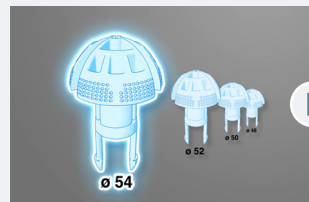
Overall conclusions are that X-pander is a safe instrument to use and provides the surgeon with tactile information of bone quality, acetabular geometry and cup positioning. Thereby optimizing:

- Adequate press-fitting **without additional screw fixation**
- Full seating of the cup, **reducing gabs** near the pole of the component
- Adequate cup sizing, **avoiding iliopsoas impingement** against a protruding or prominent cup
- **Reduced risk of acetabular fracture** during impaction of an oversized cup

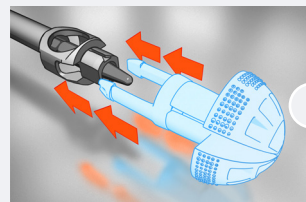
## X-pander in use



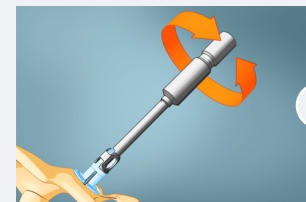
1) A reamer of e.g.  $\varnothing 54\text{mm}$  is used to ream the acetabulum.



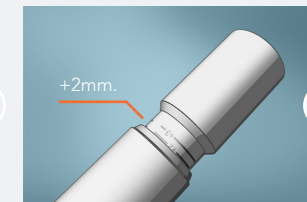
2) A Measuring Head of corresponding size ( $\varnothing 54\text{mm}$ ) is chosen.



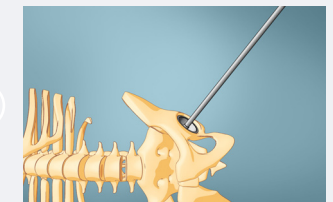
3) The Measuring Head is attached to the handle via a click-on function.



4) The Handle is turned until the Measuring Head achieves satisfactory fixation.



5) The actual acetabular diameter is read from the scale (in this case +2 means  $\varnothing 56\text{mm}$ ).



6) A cup is inserted (in this case an  $\varnothing 56\text{mm}$  shell) and proper fixation has been achieved.