Minimally Invasive Total Hip Arthroplasty

A misleading innovation

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✓ Are these approaches better?
✓ Do they work?
✓ Should they be generally adopted by the orthopaedic surgeons?
As of yet, we do not know the definite answer of these questions, and we will not know them for many years

J. Heckman
However, it is wise to turn our efforts to the direction of minimally invasive THA when more important problems are related with this procedure?
It is suggested that patients appreciated the smaller incision and smaller operative dressing...
This is a misleading approach
Minimally invasive THA has created much controversy among orthopaedic surgeons.

Symposium: Minimally Invasive THA. DJ Berry (moderator), RA Berger, JJ Callaghan, LD Dorr, PJ Duwelius, MA Hartzband, JR Lieberman and DC Mears JBJS (Am), Nov 2003
Advocates emphasize the potential for this method to reduce operative blood loss, postoperative pain, and hospitalization time, and improve the cosmetic appearance of the surgical scar.
Opponents of minimally invasive THA express concern regarding potential complications, related to reduced visualization at the time of operation (calcar or femoral fracture, dislocation, malposition of the implants, neurovascular injury, poor implant fixation)
THA is a reconstructive procedure and should be done with safety and efficacy.
It has been stated that in minimally invasive THA no muscle or tendons are cut, and the abductors are not violated
In an experimental study, performed in Mayo Clinic, Rochester MN, in fresh-frozen cadavers, the contention that the two-incision technique is done without cutting, reaming or damaging the gluteus medius or the gluteus minimus, or the external rotators, was not confirmed.

Mardones et al. CORR 441: 63-67, 2005
80 patients treated with a two-incision method had longer operative time and substantially more complications than did 120 patients with a standard posterior approach.

Pagnano et al. CORR 441: 86-90, 2005
Comparison of primary THR’s performed with a standard incision (85 patients) or a mini incision of ≤10 cm (50 patients)

The mini-incision group had higher risk of:

- wound complications
- acetabular component malposition
- poor fit and fill of cementless femoral components

Woolson et al. JBJS Am, 1353-1358, 2004
Several advocates of minimally invasive THA have stated that an advantage of these techniques is the cosmetic appearance of a short incision.

Kennon et al. JBJS Am (Supp 4), 2003
Howell et al. Orthop Clin North Am, 2004
Wright et al. J. Arthroplasty, 2004
Chiment et al. J Arthroplasty, 2005
Comparison of scars from THR done with a standard or a mini-incision

The cosmesis of mini-incision THA scars was inferior to standard-incision scars because of skin and soft tissue damage produced by high retractor pressures needed for exposure using limited skin incision

Mow et al. CORR 441: 80-85, 2005
There are only a few leading surgeons, members of the Hip Society in USA, who advocate or endorse MIS in hip arthroplasty.

Klein et al, CORR 441: 68-70, 2005
The benefits of MI-THA remain unproven

D Berry, Editorial, JBJS Am, 2005
In the first large (219 hips) prospective, randomized blinded trial of a MI-THA technique, the procedure provided no objective short-term benefit with respect to postoperative pain level, perioperative blood loss, time of hospitalization, or speed of early functional recovery.

Ogonda et al JBJS Am, 2005
Catastrophic complications of MI-THA.

A series of three cases

Fehring and Mason, JBJS Am, 2005
Ethical and Legal problems
Conclusion

It is important that the well-known long-term benefits of hip replacement not be compromised by a technique that, mainly, offers a shorter scar.
Conclusion

Let’s be sceptical to this misleading innovation