continuous improvement. Continuous quality improvement should be the goal of all industries and surgeons, regardless of product or technique.

For the benefit of their patients, we hope that practicing orthopedic surgeons will base their surgical decisions on better evidence and more extensive experience than that shared by Dr Hozack and his fellow authors. Based on our 14-month experience in 650 patients and over 700 knees, the OtisKnee performs excellently, and we highly recommend it.

Joseph V. Vernace, MD
Bryn Mawr Hospital
Bryn Mawr, PA

Alex Bodenstab, MD
Christiana Care Health Services
Wilmington, DE

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doi:10.1016/j.arth.2008.03.007

In Reply:

I would like to clarify interpretations by Dr Vernace and his colleagues of our manuscript, "Case Series: Custom-Fit Total Knee Arthroplasty (OtisKnee) Results In Malalignment" that I feel are askew. I have not condemned any procedure but, rather, have chosen to identify potential problems with the technique. I have not chastised any orthopedic company but, rather, have mentioned the potential risk of adopting a new technology with neither proper clinical trials nor adequate follow-up. Finally, the purpose merely was to present our findings to the readership of the *Journal of Arthroplasty*. These data were scrutinized by the peer review process and ultimately accepted for publication.

This is the crux of my concern. Dr Vernace and his associates state that they are a high-volume center. As such, it seems that the proper approach would have been to perform a randomized prospective study of the traditional versus the OtisMed technique. This study would have been closely evaluated by an institutional review board who would have determined the safety of the study design. After an appropriate period (a minimum of 2 years is generally accepted), they could then have presented their data for publication and subject the data to peer review scrutiny.

Instead, Dr Vernace and his associates have chosen to perform an uncontrolled experiment on their patients. Although they claim, in their letter, to have quicker recovery, less swelling and faster, more complete return of motion, this is impossible to independently verify, and their findings are therefore questionable. Dr Vernace practices in the same locality as several other high-volume knee replacement surgeons, and already, early revisions are being performed on these patients who are supposedly doing very well.

It is understandable that, sometimes, a new technique can seem to offer such dramatic benefits that it is hard to resist early introduction of that technique into the community. Certainly, the marketing campaign featuring Dr Vernace on local television and newspapers reflects his enthusiasm for the technique. As responsible physicians, where the safety of our patients should be of paramount concern, we have to learn to resist those urges. I am looking forward to the results of their prospective clinical trial before I consider the implementation of the OtisMed technology.

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To the Editor:

Re: "Hip Resurfacing Arthroplasty: The Australian Experience"

We would like to comment about the article entitled "Hip Resurfacing Arthroplasty: The Australian Experience," *The Journal of Arthroplasty*, vol 22, no 7, supplement 3, 2007.

The authors of this article show a left radiograph of one case (Fig. 3) out of a group of 21 patients that experienced an episode of pain before the fracture. In the total study group, they reported notching of the superior aspect of the neck in 47% (21 cases); 71% (32 cases) had a varus position of the femoral peg of more than 5° compared with the neck-shaft angle.

The x-ray was taken 10 weeks after the resurfacing procedure because the patient developed severe pain with weight bearing. The stress fracture in the superior neck is not visible on the first x-ray; and on the right picture, a displaced fracture is seen.

However, on the first x-ray, only with few magnifications, a stress fracture in the superior neck can be seen. Unexplained pain above the normal threshold for that postoperative time in the patients' rehabilitation should be investigated radiologically by taking plain radiographs, looking with more care, and, if needed, taking a technetium scan. One commonly cited advantage of hip resurfacing is an easier conversion to a secondary

procedure if failure occurs [1]; however, in this case with an undisplaced fracture, it could have been conservatively treated with protected weight bearing for 6 weeks if it was diagnosed earlier [2].

Sincerely,

Koen De Smet, MD
ANCA Medical Centre
Ghent, Belgium

Alessandro Calistri, MD
Clinica Ortopedica, University of Rome 'La Sapienza'
Rome, Italy

References

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2. Cossey AJ, Back DL, Shimmin A, et al. The nonoperative management of periprosthetic fractures associated with the Birmingham hip resurfacing procedure. J Arthroplasty 2005;20.

doi:10.1016/j.arth.2007.12.008

In Reply:

This letter is in response to Drs De Smet and Calistri's Letter to the Editor regarding our article entitled "Hip Resurfacing Arthroplasty: The Australian Experience", *The Journal of Arthroplasty*, vol 22, no 7, supplement 3, 2007. The x-ray on the left was taken 10 weeks after the surgery by the local physician; and unfortunately, we were not notified of the patient's pain nor did we have an opportunity to review this x-ray. We saw the patient at 5 weeks after the surgery, at which time he was doing well; and he did not come back to see us until 16 weeks after the surgery, a full 6 weeks after he had his onset of pain. By this time, the fracture had been displaced for several weeks; and he had been seeing a spinal surgeon for investigation of the pain.

If we had been aware of the pain or if we had seen the 10-week x-ray, we would have investigated him further with a technetium scan. We recommend protecting the hip with crutches for 6 weeks if there is any suggestion of stress fracture either on the x-ray or the bone scan or even if there is just a strong clinical suspicion of undisplaced fracture in the absence of supporting imaging evidence.

Hip resurfacing is a relatively new procedure in our community, and the local family physicians and the radiologist are still learning about the complications. We are doing all that we can to educate these physicians locally so that they can refer patients back to us appropriately when they have symptoms of pain with weight bearing. We also try to educate our patients of the symptoms so that they will know to contact us if they develop an undisplaced fracture.

I would like to thank Drs De Smet and Calistri for their comments and for giving me the opportunity to clarify the patient history. I acknowledge that we could have made the point more clearly in the article.

Kind regards,

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To the Editor:

In relation to the Technical Note "Location and Number of Cortical Fixation Points and the Effect on Reference Base Stability During Computer-Navigated Total Knee Arthroplasty" by Miihalko et al published in *The Journal of Arthroplasty* 2007; vol 22, no 4, p 605, we would like to comment some additional advantages of this system.

We have been using Stryker's OrthoLock (Kalamazoo, Mich) system since year 2005 to fix the femoral markers in computer-assisted total knee arthroplasty. In our experience:

1. The percutaneous smooth pins are less traumatic for soft tissues than the single threaded pin.
2. The OrthoLock system allows a better position of the femoral marker because we can make fine adjustments of the tracker device after fixing the percutaneous pins.
3. The neurovascular damage should be less probable with OrthoLock because of the unicortical anchoring.
4. In a recent article [1], we published that with this system, there were less fixation failures (loosening of the femoral screw) and the surgical time was reduced. Fixation time of the femoral tracker using OrthoLock was 3 minutes vs 5 minutes for the bicortical self-locking pin ($P < .001$).

New versatile tracker fixing devices like OrthoLock will make the computer-assisted orthopedic surgery easy to perform and will decrease the surgical time.

Daniel Hernandez-Vaquero, PhD
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doi:10.1016/j.arth.2007.12.006