

Hippocratic Oath... A pledge, The journey, Our destiny

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Should scoliosis screening for school children be introduced or continued?

Keith DK Luk
SICOT President-Elect – Hong Kong

There are many causes of scoliosis including congenital malformation, neuromuscular diseases or as part of a syndromal disorder. However, the aetiology of 80% of scoliosis is still not yet known. They appear and progress at the growth spurt during the early teens and are thus called adolescent idiopathic scoliosis (AIS). The reported prevalence of curves of Cobb angles $>10^\circ$ ranged from 0.1-7% but only 0.1-1.4% exceed 20° . If left untreated a small percentage of them may progress leading to severe clinical deformities, cardiopulmonary compromise, earlier onset of low back pain, and not the least, psychosocial burden on both the adolescents and the parents. Non-invasive bracing could be used to arrest progression when the curve is mild and detected early. For large curves or rapidly progressive curves in the skeletally immature, surgical correction and fusion of the spine may be necessary. Earlier detection and diagnosis of AIS would therefore hopefully minimize the risk and costs associated with surgery.

Screening for spinal deformity amongst the adolescents was first started in the late 1950s in Delaware, USA, followed by implementation in Canada, some European and Asian countries using different screening protocols. Participation was voluntary in the majority, except for Japan and some states in the USA. In 1996, the US Preventive Services Task Force (USPSTF) recommended 'neither support nor opposition' to scoliosis screening because of lack of sufficient evidence either way. Interestingly, they changed their recommendation to 'against screening' in 2004 without newer information, but mainly because there was a lack of evidence of an effective conservative treatment method even if the scoliosis were detected early. This recommendation has been heavily challenged and the value of scoliosis screening has remained controversial since. On a positive side, it has prompted a number of high quality studies and systematic reviews in the past decade including a series of published works from our centre in Hong Kong in the last few years.

An ideal population scoliosis screening programme should be highly sensitive (at least 70%), specific and predictive (a

positive predictive value (PPV) of between 30 and 50%), with minimal referral rate, safe and inexpensive. The specificity and negative predictive values (NPV) are less of a concern because they are often high due to the lower prevalence of AIS. Although radiography is very sensitive in confirming the diagnosis it is obviously not the screening tool of choice because of the radiation risk and the cost. The forward bending test (FBT) is the most commonly used method. It is cheap, safe, rapid, and can be easily performed on a large population. However, it is operator dependent leading to many false positive and false negative cases. The angle of trunk rotation (ATR) at the rib hump measured with a scoliometer has been found to correlate well with Cobb angle on the radiograph. A cutoff value of 5° ATR is commonly used for diagnosing scoliosis. The Moire topography was developed and popularized in Europe. It makes use of a biosterometric technique by casting the shadow of a set of grid lines over the back of the upright subject. The contour lines on the back resemble the altitude lines on a map that delineates the height of the mountain and the depth of the valley, thus revealing the amount of asymmetry between the two sides of the back. This technique incurs a small investment on the grid but otherwise the recurrent cost is negligible. It is very safe because it is only an optical method. From the literature it is evident that any of the above methods when used alone would produce low sensitivity and specificity. However, when used in combination the results are very satisfactory.

I was responsible for initiating the scoliosis screening programme in Hong Kong in 1995, taking advantage of the commencement of an annual physical check-up programme offered by the Student Health Services then. A tier system was designed in which the family physicians involved were trained to perform the FBT and ATR measurement in tier 1. If the ATR is $>5^\circ$ the student will undergo the Moire topography at a tier 2 special clinic. Failing the cutoff criteria of >2 Moire line difference between the two sides of the back, an X-ray will be taken. The patient will only be referred to the tier 3 scoliosis clinic managed by a trained scoliosis surgeon if the curve has a Cobb angle of $>20^\circ$. The programme is offered to all

school children starting from grade 5 (around 10 years old) and they will be screened annually until skeletal maturity. To date, more than 1.2 million episodes of examination have been performed and 115,190 of the students screened have already reached maturity. This is an important issue because we all know that if a girl is screened negative for scoliosis at the age of 10 it does not necessarily mean that she will not develop a scoliosis in the later years. There is only one other programme in the literature that had followed their subjects to maturity but unfortunately their cohort size was very small with only 2,242 subjects.

In a meta-analysis conducted by our group where 36 cohort studies from different countries between 1977 and 2005 were included, the pooled referral rate for radiography was 5%, within which only 5.6% had Cobb angles of $>20^\circ$. These very low PPVs indicate that many students were unnecessarily referred. This can be easily explained by the heterogeneity in the screening tests, the referral criteria used and the diversity of follow-up rates. For example, when the FBT was used alone many more children would have been referred for radiographic assessment. On the contrary, our referral rate in Hong Kong for radiography was 2.8% with a very reliable 95% confidence interval of 2.7-2.9%. The sensitivity and PPV for detecting a $>20^\circ$ curve was 88.1% and 43.6% respectively. The corresponding specificity and NPV were over 95%.

The cost of a screening programme is an obvious concern to the health care provider. Some studies included only the cost of the screening while others have included that of the diagnostics and subsequent brace treatment or even surgery. It is therefore hard to compare between countries where different health care systems are in place with different funding mechanisms. Suffice it to say the cost of screening one student in our Hong Kong cohort reported in 2012 was USD 55, which is very similar to USD 54 in a study from Rochester, Minnesota, USA, reported in 2000 after adjusting for inflation.

From our experience over the past 18 years we have found that a tiered screening programme using a combination of

tools is not only effective in identifying AIS patients who require follow-up management but is also inexpensive and sustainable. What we have not been able to show is whether the rate of surgery has been successfully reduced as a result of the earlier diagnosis. Whether brace treatment is truly effective in changing the natural history of the curve progression is another subject that deserves further research. One thing for sure is that our community is now much better educated about this condition. When I was an orthopaedic resident in the late 1970s, most of the surgeries were performed on late presenters with curves of $>70-100^\circ$, both because of ignorance of the parents and, regrettably, also some frontline doctors. Today, the majority of surgical cases are those who have failed conservative bracing with curve magnitudes in the low or mid 50s°. Neglected cases that upon first presentation deemed requiring major vertebral resections are now rare. The reverse trend is being observed recently in Norway where unfortunately they have given up their screening programme since 20 years ago. Earlier and easier surgery may not be good news for the technical surgeon but is certainly the best news for the patients and their families.

We understand our SICOT community covers countries with very different systems with different health care priorities and financial constraints. However, in my mind scoliosis screening is very worth introducing or continuing, if resources permit. Prevention is better than cure, but if it is not preventable then an earlier diagnosis and timely intervention is the next best we can do.

A list of further reading can be found at:
www.sicot.org/?id_page=713



Report of Training Fellowship in Arthroplasty at Ganga Medical Centre & Hospitals

Wakeel Olaide Lawal
Lagos, Nigeria

It was a dream come true when Prof Jochen Eulert, SICOT Secretary General, informed me that a three-month training fellowship in arthroplasty had been approved for me at Ganga Medical Centre & Hospitals (GMCH), Coimbatore, India. It was a difficult decision for me because I had to resign from my six-month fellowship job, which had been offered to me by my training institution after passing the fellowship examination of the West African College of Surgeons, and lose six months of salary. However, this great opportunity to improve my skills and knowledge in arthroplasty was enough consolation.

Ganga Hospital is a 420-bed hospital with a state of the art facility. It provides care in various subspecialties of Orthopaedic, Plastic and Reconstructive Surgeries. The Hospital is situated in the heart of Coimbatore, a city popularly referred to as Medical City because of the large number of hospitals in the city. The Orthopaedics Department has five theatre suites that deal with arthroplasty, spine, arthroscopy, and paediatric cases and a separate five theatre suites for trauma. The arthroplasty units perform an average of 8 to 12 cases per day and this is more than enough for adequate exposure and training.

I arrived at Coimbatore on 30 August 2012 to start the training in September and to my surprise a car was already waiting for me at the airport to take me to my lodge. My accommodation was at M.K. Homes, which is about a ten-minute drive to the hospital. It is a privately owned lodge and I was paying 6,000 rupees for rent, 300 rupees for electricity, and 600 rupees for transport per month.

On 3 September, I met Prof Shanmuganathan Rajasekaran during a clinical teaching. He introduced me to other fellows who were with him for the breakfast clinical teaching. This prepared me quickly for training as I listened to the wealth of knowledge coming from him. I was happy I had taken the decision to come to this hospital for training. He introduced me to Dr Dhanasekaran, a consultant arthroplasty and trauma surgeon in the hospital, whose unit I was attached to. He took me around the hospital to familiarise myself and I felt at home instantly.

I started the training on the same day. I worked directly with Prof Rajasekaran, Dr Dhanasekaran, and occasionally with Dr Rajkumar, who is also a consultant arthroplasty and trauma surgeon in the hospital. I attended six day theatre sessions in about a week, out of which one was a trauma operating session. Each unit roster has an average of six arthroplasty cases per day which includes various complex primary total knee replacements, total hip replacements and revisions. I was directly involved in the management of cases, and I scrubbed for about three to four cases per theatre session and for more than 70 cases throughout the period of the fellowship.



The author assisting Dr Dhanasekaran in a TKR

While working with Prof Rajasekaran, I learnt many tips on the technical aspect of arthroplasty which comes from experience. I also had the opportunity to assist him in some complex total hip and knee replacements as well as cases of revision surgery. He made sure I was always present for his cases and this assisted me tremendously because of the knowledge he shared with me whenever I worked with him.

Another training programme was a demonstration with hip and knee models which was coordinated by Dr Rajkumar. This gave me a clear picture of what to expect in the course of the surgery.



Demonstration with models coordinated by Dr Rajkumar (first from left)

At GMCH, my supervising consultant ensured that I had the same opportunities as other arthroplasty fellows, irrespective of where I was coming from. I scrubbed for many replacements, including computer navigated total knee replacement, and attended follow-up clinics. I also observed a variety of trauma cases, especially the management of fractures around the hip, ankle, and proximal and distal humerus. I particularly enjoyed routine operating table discussions as well as discussions of cases in the clinic.

Coming to India (Ganga) afforded me the opportunity to take an ATLS Course. I also attended two workshops: one on complex primary knee replacement at Kovai Medical Centre and Hospital (KMCH) and another on the management of complex limb injuries at GMCH.

Sunday was a resting day for me during the training and I used this to get acquainted with my environment and visit important places in Coimbatore.

The surgical experience that I gained at GMCH is incomparable to what I had in my primary training centre. I am really happy that I had my training in this hospital considering the volume of cases I was exposed to within a

short period of time. I do not think I could have gotten this anywhere else.

Finally, I wish to express my gratitude to Prof Eulert for giving me this opportunity. Special thanks also go to Prof Rajasekaran and the entire Arthroplasty and Trauma Department (Dr Dhanasekaran, Dr Rajkumar, and other arthroplasty fellows) for imparting their knowledge. I also wish to thank Dr Balavenkart and Dr Ajoy for making sure my stay at Coimbatore was social as well. I particularly enjoyed the teamwork of the members of the operating theatre and members of staff of GMCH. I am grateful to the entire family of Prof Rajasekaran for hosting a befitting dinner for us.



Dinner at the home of Prof Rajasekaran (third from left)

“Action is the foundation of success...”. I have acted by coming to India and await the success that follows action. I will forever call to mind the contribution of this facility to my professional development.

Hippocratic Oath... A pledge, The journey, Our destiny



Hitendra K. Doshi
SICOT National Representative – Singapore

I swear by Apollo, Asclepius, Hygieia, and Panacea, and I take to witness all the gods, all the goddesses, to keep according to my ability and my judgment, the following Oath.

To consider dear to me, as my parents, him who taught me this art; to live in common with him and, if necessary, to share my goods with him; to look upon his children as my own brothers, to teach them this art.

I will prescribe regimens for the good of my patients according to my ability and my judgment and never do harm to anyone. To please no one will I prescribe a deadly drug nor give advice which may cause his death. But I will preserve the purity of my life and my arts.

I will not cut for stone, even for patients in whom the disease is manifest; I will leave this operation to be performed by practitioners, specialists in this art.

In every house where I come I will enter only for the good of my patients, keeping myself far from all intentional ill-doing and all seduction and especially from the pleasures of love with women or with men, be they free or slaves.

All that may come to my knowledge in the exercise of my profession or in daily commerce with men, which ought not to be spread abroad, I will keep secret and will never reveal.

If I keep this oath faithfully, may I enjoy my life and practice my art, respected by all men and in all times; but if I swerve from it or violate it, may the reverse be my lot.

- Hippocrates

The Hippocratic Oath is traditionally taken by medical practitioners. Written in antiquity, its principles are held sacred by doctors to this day. Hippocrates is regarded as the 'father of medicine' because of the words of guidance and wisdom which has led to the manifestation of our medical practice. In order to make a conscious effort of

putting the 'oath' into action, the significance of the oath has to be shelled out in layers and reflected upon.

The first sentence of the oath that reads "***I swear by Apollo, Asclepius, Hygieia, and Panacea, and I take to witness all the gods, all the goddesses, to keep according to my ability and my judgment, the following Oath***" gives a sense of 'sacredness' as it is being made to their ancient Greek gods and goddesses. It takes witness of all other superiorities regarded as gods and goddesses, which adds grandeur and commitment to the oath taken. This clearly demonstrates an appreciation of the existence of a higher force other than man himself. The value of 'humility' is exemplified as it reminds us that doctors are merely instruments. Having laid the fundamental sacredness, Hippocrates goes on further to unveil the basic human values portrayed in the oath.

The value of 'pure love' is expressed in the second line which reads "***To consider dear to me, as my parents, him who taught me this art; to live in common with him and, if necessary, to share my goods with him; to look upon his children as my own brothers, to teach them this art***". Hippocrates enlightens us on the noble quality of 'expansion of love' with the attitude of 'selflessness' and 'equanimity' which is free from attachment, expectation, selfishness and greed. Love that embraces all people regardless of creed, community or language portrays its pureness. Thus, it is beyond doubt that 'pure love' is the most charming quality a doctor can have and hence the nobility of the profession.

Hippocrates continues guiding us in the following phrase that reads "***I will prescribe regimens for the good of my patients according to my ability and my judgment and never do harm to anyone. To please no one will I prescribe a deadly drug nor give advice which may cause his death. But I will preserve the purity of my life and my arts***". It enlightens us on the practice of 'righteousness' based on 'discrimination'. A genuine intention to act in the patient's best interests must prevail without any traces of harm. 'Death' as mentioned in the oath does not merely refer to physical harm, but includes emotional, mental and

spiritual aspects too. Such a medical practice preserves the 'purity of life' and 'art' that Hippocrates relates to in the last words of this pledge.

The spirit of 'contentment' and 'sacrifice' is unveiled in the following lines that read ***"I will not cut for stone, even for patients in whom the disease is manifest; I will leave this operation to be performed by practitioners, specialists in this art"***. Hippocrates wisely reminds us that appropriate treatment administered becomes unjust if monetary gain becomes the sole intention. Hence, the oath obliges the doctor to regard earnings as secondary and to have no hesitation to refer a patient to another doctor who will be of best interest for the well-being of the patient.

The teacher in the oath reveals yet another value of practicing 'detachment' in the following line that reads ***"In every house where I come I will enter only for the good of my patients, keeping myself far from all intentional ill-doing and all seduction and especially from the pleasures of love with women or with men, be they free or slaves"***. The vulnerability of man in adhering to the righteous path is eminent as he is exposed to external influences through the senses. An emotion is indeed a natural instinct of man and it is inherently present in its pure form. However, when emotions are allowed to run unabated, it can be detrimental and result in immoral attachments. It is only with such awareness that a doctor can conduct himself intentionally with professionalism and nobility.

"All that may come to my knowledge in the exercise of my profession or in daily commerce with men, which ought not to be spread abroad, I will keep secret and will never reveal" is the final pledge taken before the concluding statement. The 'teacher' in the oath reveals the value of being 'respectful' and 'truthful' to the patient's confidentiality. It is only by practicing these virtues that doctors can receive respect and truthfulness from the patient in return. Therefore, it cannot be over-emphasized that the oath here demonstrates the latent values of *trust, faith, respect and truth* which are the guiding walls in the path of a life of a doctor.

For the minds that doubt the significance of practicing the latent human values prescribed in the oath, Hippocrates provides a divine reasoning with affirmation in the last breath of the oath that reads ***"If I keep this oath faithfully, may I enjoy my life and practice my art, respected by all men and in all times; but if I swerve from it or violate it, may the reverse be my lot"***. This concluding statement of the oath reassures a doctor that happiness and delight will be the grace in return, if virtues of the oath are held faithfully. Nevertheless, if human values are violated in daily practice, grief and disrespect will have to be endured in exchange.

In conclusion, the 'Hippocrates Oath' is indeed *a pledge*, guiding us on our *journey* to reach *our destiny*. It is indeed an inward 'awakening' when we digest the profound message of 'simple living' and 'high thinking' that is clearly spelled out in the oath. Hence, the oath must become a 'mantra' in the conscious mind, to enable its significance to echo constantly in the subconscious mind. Only then can doctors manifest the latent message of the oath in thought, word and deed.



The unabridged version of this article is published in two parts on the SICOT website: www.sicot.org/?id_page=714 and www.sicot.org/?id_page=731

Achilles Tendon Rupture: Conservative or Surgical Treatment?

Conservative Management

Abhishek Kini
Mumbai, India

The choice of treatment for Achilles tendon tear has come full circle favouring conservative and operative treatment alternatively with no definite conclusion. The prime argument against operative treatment is the high rate of post-operative complications. The rate of complication in a surgically treated group is as high as 20% in a large study of 775 patients. These complications include skin necrosis, wound infections, sural nerve neuroma, adhesion of scar to the skin along with the complications associated with anaesthesia.

Conservative management of Achilles tendon ruptures had been based on long periods of rigid immobilization with above or below knee casts applied with the ankle in plantar flexion. These casts were regularly changed with gradual weaning of plantar flexion and progressive increase in weight bearing. Treatment ranged from 12 to 24 weeks and was followed by physical therapy. The tendon gap filled with fibrous scar leading to a lengthened tendon which in turn leads to decreased push off. The scarred tendon is also reported to have a higher re-rupture rate.

This handicap of prolonged treatment has been recently overcome by a functional protocol where the patients are placed in a rigid cast for three weeks followed by an ankle-foot orthosis that holds the ankle in 15° of plantar flexion, allowing motion with physical therapy. Our better understanding of tendon healing and its microstructural arrangement has made it possible to modify this even better. Recent evidence has shown that the healing tendon when adequately loaded, gives the required stimulus to early healing and gets the tendon collagen in orderly fashion, which provides strength to the tendon.

Nowadays, with a better microstructural understanding of tendon healing and its associated pathology (degeneration), are we justified in putting our patients with a tendo Achilles rupture under our knife? This is a question which is open to debate. However, with a shorter hospital stay, less absenteeism from work, regained levels of strength as for surgical patients and a lower rate of complications along with lower cost implications on the healthcare infrastructure, the favoured choice of treatment is functional casting.

Surgical Management

Mohd Yazid Bajuri
SICOT Active Member – Kuala Lumpur, Malaysia

The advantages of surgical treatment include early return to work, low re-rupture rate, and better calf muscle strength and overall functional outcome. Most recent reviews have recommended surgery as the main treatment as evidence of a reduction in the rate of re-ruptures associated with surgery. Most of the surgeries were performed as open procedures; although percutaneous techniques have gained popularity. Surgically repaired tendons have the benefit of a more rapid rehabilitation. This will improve muscle function and facilitate an earlier return to sports and occupational activity. The proponent of surgically managed Achilles tendon rupture argues that there is a lower rate of re-rupture after surgery. In fact, a few studies have reported that the re-rupture rate following conservative treatment is as high as 10 to 12%, whereas surgery lowers the rate to <3%.

A recent meta-analysis of randomised trials treatment of ruptured tendo Achilles demonstrated no significant re-rupture rate when comparing conservative to surgical treatment, while offering the advantage of less complications by using functional rehabilitation. However, the drawback of this treatment is that only certain centres can offer this kind of treatment. The report also suggested that surgical repair should be more preferable in centres which do not employ early range-of-motion protocols as it decreased the re-rupture risk in such patients.

A few studies have reported an earlier time to return to work for the surgically managed patient as compared to conservative treatment. In fact a recent meta-analysis noted that on average patients whose Achilles tendon rupture was repaired surgically returned to work 19 days earlier than patients who underwent non-surgical treatment.

The full version of this debate is available on the SICOT website: www.sicot.org/?id_page=719

Pain and swelling after Metal on Metal THR

Jason Werle & Kamal Bali
Calgary, Canada

Case

A 45-year-old female police officer underwent Right Birmingham Hip Resurfacing (BHR) in October 2005 and Left BHR in January 2008 secondary to bilateral primary osteoarthritis. Post-operative course was uneventful and the patient was able to return to martial arts/judo after the second surgery. The patient returned in January 2010 with a painful left hip and limitation in activity. The patient also noticed a very slowly increasing swelling in the left thigh. Examination revealed restriction in range of motion on the left side as compared to the right. There were no signs suggestive of psoas tendonitis/impingement. Examination also revealed sciatic nerve paresthesia without any motor weakness on the left side.



Figure 1

No apparent abnormality was found in the radiographs (Fig. 1). A blood workup performed at this stage was negative for infection (normal ESR and CRP). A fluid filled collection on the ultrasound of the left hip and raised whole blood cobalt and chromium levels in this patient led us to suspect some form of metal ion hypersensitivity in the patient. A metal artifact reducing MRI revealed a fluid collection (pseudotumour) measuring 18 cm x 9 cm x 5 cm, encasing the sciatic nerve (Fig. 2). This explained the sciatic nerve paresthesias in the patient.

Management included revision to a ceramic on ceramic total hip arthroplasty along with surgical excision of the pseudotumour (Fig. 3). Postoperatively, the patient had complete resolution of symptoms with the return of metal ions to baseline suggestive of well-functioning metal on metal hip resurfacing on the right side.

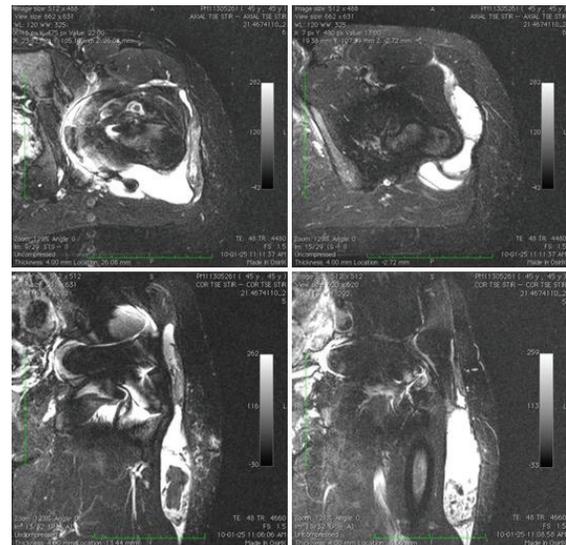


Figure 2

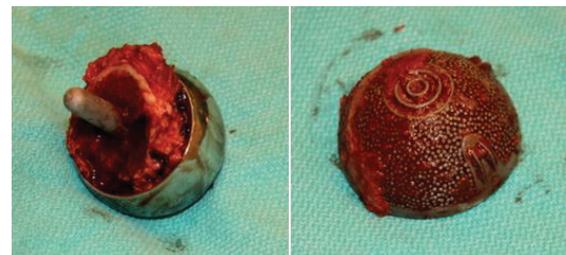


Figure 3

Key Message

MoM hip arthroplasties (MoM total hips or MoM hip resurfacings) can rarely fail as a result of the formation of pseudotumours. These are usually associated with high blood metal ion (chromium and cobalt) levels and distinct fluid filled collections demonstrable on the MRI/ultrasound. Pseudotumours and metal hypersensitivities have been more commonly seen in females, which has led to a dramatic reduction in females undergoing a MoM arthroplasty.

To read the full version of this case, please go to the SICOT website (accessible to SICOT members only and login is required): www.sicot.org/?id_page=690

TKA: Similar revision rates and outcomes for all-polyethylene and metal-backed components

Title: All-polyethylene tibial components are equal to metal-backed components: systematic review and Meta regression

Authors: Nouta KA, Verra WC, Pijls BG, Schoones JW, Nelissen RG

Department of Orthopaedics, Leiden University Medical Center, Postal Code J11R, PO Box 9600, 2300 RC Leiden, The Netherlands

Clin Orthop Relat Res. 2012 Dec;470(12):3549-59.

doi: 10.1007/s11999-012-2582-2. Epub 2012 Sep 13

Published Date: December 2012

Level of Evidence: Level II - Meta-analysis

PMID: 22972656

Type of Study: Meta-analysis

Synopsis

26 articles (12,500 TKAs with 231 revisions) were identified to compare the clinical outcomes (revision rates and clinical functioning) of metal-backed and all-polyethylene tibial component in primary TKAs. Results indicated that there were no differences in revision rates or outcome scores between the two components, except for higher migration of the metal-backed components and less migration of all-polyethylene components.

Why was this study needed now?

While metal-backed tibial components are used in the majority of TKAs, the all-polyethylene component has been frequently recommended. However, it is unclear whether one component would display a superior performance over the other. Hence, this systematic review aims to investigate whether the metal-backed tibial component would be clinically superior to the all-polyethylene tibial component in primary TKA in terms of revision rates and clinical functioning. Additionally, this systematic review focuses on determining which modifying variables would affect the revision rate.

What was the principal research question?

Does the metal-backed tibial component provide clinically superior outcomes compared to the all-polyethylene tibial component in primary TKAs with regards to revision rates and clinical functioning?

Study Criteria

- a. *The following databases were searched:* PubMed, Embase, Web of Science, Cochrane, CINAHL, and Academic Search Premier. Furthermore, the journal databases for Science Direct and Wiley-Blackwell were searched.
- b. *Index Terms:* Index terms included: "polyethylene", "arthroplasty", and "knee replacement".
- c. *Study Selection:* The articles had to meet the following inclusion criteria:
 1. The study had to be a comparative study.
 2. The intervention(s) assessed had to be all-polyethylene and metal-backed tibial components in primary TKAs for end-stage osteoarthritis or rheumatoid arthritis with the results separately reported.
 3. The metal-backed tibial components needed to have a fixed-bearing design.
 4. Outcome measurements in the studies had to include survival rates, clinical measurements, or functional measurements with minimal follow-up of six months. The articles were excluded if: 1) The study did not meet the inclusion criteria for title and abstract, and 2) the population had been reported in another included study.
- d. *Data Extraction:* Two reviewers (KAN, WCV) independently extracted data concerning summary patient demographics, methods, interventions, and outcomes. Disagreements in study and data extraction were resolved through consensus with a third reviewer (BGP).
- e. *Data Synthesis:* The 26 selected articles (11 RCTs and 15 non-RCTs) comprised of 2,700 all-polyethylene and 9,978 fixed-bearing metal-backed tibial components used in TKAs with 231 revisions for any

reason. The review tested heterogeneity between studies with the I-squared statistic. Possible sources of heterogeneity were explored through meta-regression using the random-effects regression model. The random-effects model was used to combine all data for meta-analysis according to the pooled Mantel-Haenszel test for risk differences (RDs) and the pooled standard error for mean differences (MDs). Metafor package for R Version 2.13 was used to perform all analyses.

What were the important findings?

- No differences in revision rates were displayed between the two tibial components; the revision rates were 0.975 (95% CI, 0.959-0.992) for the all-polyethylene component and 0.973 (95% CI, 0.959-0.988) for the metal-backed component.
- The meta-regression for the primary outcome indicated an improvement in the all-polyethylene component with time compared with the metal-backed component.
- No differences were displayed in the secondary outcome measurements: ROM, The Knee Society Score (KSS), and Hospital for Special Surgery (HSS) scores between both components. Additionally, there were no differences in radiographic femorotibial alignment, anterior tibial alignment, and tibial slope between the two types of designs.

- All-polyethylene tibial components resulted in less migration compared to metal-backed components as the maximum total point motion (MTPM) for cemented tibial components using radiostereotactic analysis (RSA) indicated a mean difference of -0.29 (95% CI, -0.29, -0.21) favouring the all-polyethylene component.

How will this affect the care of patients?

This review suggests that the use of an all-polyethylene tibial component in TKA is an effective, safe treatment for end-stage osteoarthritis of the knee. However, further studies may be required before reconsidering the use of this component design.

What should I remember most?

There were no clinically relevant differences in revision rates, clinical function, or radiographic variables between the metal-backed and all-polyethylene components.

References:

1. www.myorthoevidence.com
2. Pubmed: www.ncbi.nlm.nih.gov/pubmed/22972656
3. Clinical Orthopaedics and Related Research, Volume 470, Issue 12, pp 3549-3559

OrthoEvidence & SICOT



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SICOT Educational Day 2013

The aim of the SICOT Educational Day is to provide a comprehensive review course for the residents and an evidence-based update for the practicing surgeons on a specific theme at each SICOT Congress. The theme is selected in such a way that it is mutually beneficial to the resident in their exams and to the orthopaedic surgeons in their daily practice. The themes are based on the syllabus of the FRCS (Tr & Orth) exam in the UK and the EBOT exam in Europe, and will be run in a cycle of five years. The event is planned to be held on the first day of every SICOT meeting and is reasonably priced for the residents and surgeons in training.

The theme for the Congress in Prague in 2011 was 'The Hip' and then 'The Knee' in Dubai in 2012. These days focussed on all the elements of hip and knee surgery right from anatomy and surgical approaches to complex revision arthroplasty. The format consisted of four to six short lectures in each section followed by ample time for discussion and debate during coffee breaks. Dedicated teachers, a mix of the younger and the older generation, from around the globe were brought together to lecture on their area of expertise. The response to these days has been overwhelming and the feedback has been excellent.

With the experience of two successful events we are now pleased to announce the third SICOT Educational Day in Hyderabad, India, to be held on 16 October 2013. The theme for this year is 'Trauma'. We have invited expert Faculty from over ten countries for lecturing on the course. The SICOT Moderators, Mandeep Dhillon (India), Emmanuel Audenaert (Belgium), Fatih Kucukdurmaz (Turkey), Hatem Said (Egypt), and Peter Yau (Hong Kong), have worked extremely hard to produce a great programme. The format of this year's Educational Day consists of short ten-minute lectures with case based discussions, interactive sessions and debates.

So, if you wish to learn, share, debate and discuss ideas and surgical techniques in an exciting environment with a group of international surgeons in one room, the Educational Day in Hyderabad is the place for you.

To avoid disappointment, please reserve your places soon as we have only 200 places for this event.

We look forward to seeing you there!

Vikas Khanduja – SICOT Educational Day Chairman

Editorial Department

Editorial Secretary: Hatem Said

Editorial Production: Linda Ridefjord

Editorial Board: Ahmed Abdel Azeem, Syah Bahari, Kamal Bali, Bassel El-Osta, Anthony Hall, Shalin Maheshwari, Maximilian Rudert

Rue Washington 40-b.9, 1050 Brussels, Belgium

Tel.: +32 2 648 68 23 | Fax: +32 2 649 86 01

E-mail: edsecr@sicot.org | Website: www.sicot.org