

move! 89

*a new way of thinking about everyday life
in medicine and in the clinic*

STIMULI FROM ORTHOPAEDICS AND THE PROFESSIONAL FIELD – FOR PHYSICIANS, SPECIALISTS AND EXECUTIVES

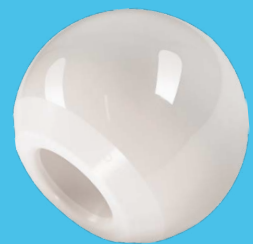
Interview with Prof David G. Campbell

«The determining factors for
implant longevity are the patient's
age and implant choice»



Product in focus

A pearl of ceramics



From the professional field

Dealing with «difficult» and anxious patients



«The determining factors for implant longevity are the patient's age and implant choice»



Associate Professor David G. Campbell

is a multi award-winning specialist in endoprosthesis and a surgeon at the Wakefield Orthopaedic Clinic in Adelaide and at other hospitals in Australia. He specialises in hip and knee surgery. As balanSys user since 2007, he has implanted over 1 200 balanSys prostheses since. He is also passionate about his research into, and work on, minimally invasive techniques for joint replacement.

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In knee joint replacement, the opportunities for optimising materials and implant design have been largely exhausted. Prof. Campbell, an Australian knee specialist, reveals his successful formula for producing a good clinical outcome.

Associate Professor Campbell, when it comes to choosing implants, and in orthopaedic surgery in general, how important is clinical evidence to you?

Evidence is very important, and nowadays we have significantly improved access to evidence from various sources. Two decades ago, we were still relying on results from other hospitals that were involved in the development process, biomechanical investigations and published short-term studies of limited informative merit. Now, we have useful registry data that challenges us to improve our personal outcomes and our choice of implants. The

are able to identify factors in implant design that indicate a significant reduction in the revision frequency. We may all have our own personal opinions and philosophies, but it is very difficult to improve the survival rate any further of a cemented, cruciate ligament-preserving «fixed bearing» implant with a demonstrable success record.

How do you achieve a good clinical result? What are the most important factors to ensure success?

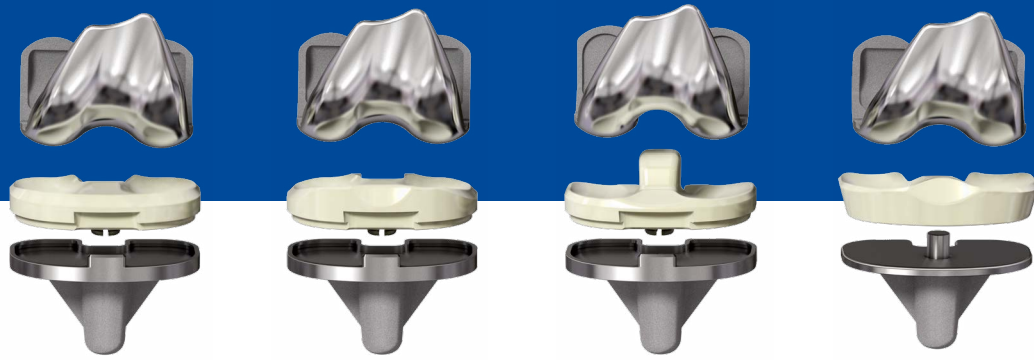
The choice of implant is clearly an important parameter in determining the longevity of the



Australian registry creates funnel plots* presenting the surgical results of individual surgeons. This has shown that our choice of implant is one of the dominant factors in determining success.

A choice of implant that, in the last ten years was regarded as good, is now being increasingly questioned. There are exceptions, but we

implant, but clinical outcomes are multi-factorial. Meeting patient expectations is a key component. Unfortunately, however, we are still envious of the reliable and consistent results that are achieved in hip surgery. Whereas I anticipate a «forgotten joint» for almost all of my hip patients, we are unable to reduce the 15 per cent of dissatisfied knee implant patients. We are generally able to ensure that the



operated knee is pain-free. We have realised, however, that patients are happier if they are made aware prior to surgery that their range of motion may be limited, and they may not be able to kneel down or squat.

Since there are so many differences between clinical outcomes, it is difficult to measure them objectively. However, I am convinced that they have improved from decade to decade. I think I am able to distinguish a well-balanced knee with a conforming implant from the looser «round-on-flat» implants. Surgical precision, haemostasis and proactive pain management play a synergistic role in producing an optimal outcome.

«A choice of implant that, in the last ten years, was regarded as good is now being increasingly questioned.»

What do you see as the key factors when performing a knee replacement in order to achieve good longevity?

Our registries tell us that the choice of implant and age of the patient are the two main determining factors for the implant's longevity. From the perspective of the implant, we had hoped that mobile bearings would reduce wear however they exhibit a higher early failure rate followed by the same rates of wear in long-term follow-up. They therefore have never achieved the long-term reduction in revision rates we anticipated. Posterior stabilised (PS) knee prostheses with a cam mechanism have increased revision rates regardless of the complexity of the case. With regard to fixation, it turns out that cement is better for tibial fixation but that it has no effect on femoral fixation. Cross-linked polyethylenes are probably a good option for knee implants, albeit less dramatically than hips. A polyethylene (PE) with moderate cross-linking at a radiation dose of 75 kGy appears to be the optimum

choice. For knee implants, a vitamin E-enhanced polyethylene could offer benefits.

«Meeting patient expectations is a key component.»

Looking at current trends and developments, what might be the next big thing in knee endoprosthesis?

If we look at the main problems in knee endoprosthesis, we should also think about the possible solutions. I predict that many of the market-driven trends will not stick around for long. One global problem in knee endoprosthesis is the constantly growing demand from an ageing and expanding population. For countries in the First World, a growth in knee replacement of 250 to 850 per cent is predicted over the next 20 years. Costs are inevitably becoming an important factor, which might lead to a growth in the use of fully polyethylene tibial implants, for example, which are more economical and likely to last longer. Low-priced instruments and logistics, such as rapid care concepts, are anticipated.

«For knee implants, a vitamin E-enhanced polyethylene could be a benefit.»

In knee replacement procedures, we achieve one of the most impressive QUALY improvements, calling into question our desire for further improvement. Implant development is becoming increasingly challenging, since newer implants have not necessarily improved clinical results. The most common reasons for revision (loosening/lysis, infection, instability and pain) have largely remained unchanged since Sharkey's publication in 2002. Cross-linked PE can reduce loosening or lysis to a certain degree, but there is no tribological

solution for infections.

Instability and pain may be related to the surgical technique used. Implantations involving greater precision however demonstrate only slightly better clinical outcomes and survival rates.

We know that computer-aided surgery works, while the evidence for other methods such as patient-specific implants and robot-based surgery is still lacking.

I expect that the increased volume of knee operations will lead to a rise in the number of qualified surgeons using validated implants. The lessons from industry show us that decreasing variation and maintaining consistency lead to a better product. Although innovation is important, I anticipate that we will be moving towards successful technologies with a positive success record.

Professor Campbell, thank you for talking to us today.

* A funnel plot is a scatter diagram for identifying statistical outliers.

A pearl of ceramics

Since the early 1970s, Mathys has researched, developed and produced bioceramics – with good reason. Bioceramic materials offer many advantages: low wear rates, high stability and durability, a low risk of surface roughening, good wetting properties and bio-inert behaviour.

The nanocrystalline dispersion ceramic ceramys is made up of a homogeneous mixture of 20 per cent aluminium oxide (Al_2O_3) and 80 per cent yttrium oxide (Y_2O_3) stabilised zirconium oxide (ZrO_2) with no other additives. This composition has proven its merit in clinical applications: last year, ceramys celebrated its 10th anniversary.

The properties of this ceramic make ceramys an option for treating more than just young and active patients. The material properties of ceramys result in less wear with ceramic-ceramic pairings¹ and reduced wear of ceramys/vitamys pairings compared with ceramys/UHMWPE².

Alongside the low-wear ceramic-ceramic tribological pairing, Mathys includes the hard-soft pairing with a ceramys head and the RM Pressfit Cup in its portfolio as a low-risk solution (low-risk in terms of potential breakage and squeaking).

ceramys also offers additional solutions in the field of femoral heads for revisions.

ceramys at a glance

- High product safety
- High fracture resistance²
- Reduced risk of chipping and surface roughening in the event of recurrent dislocations³
- Ageing resistant⁴



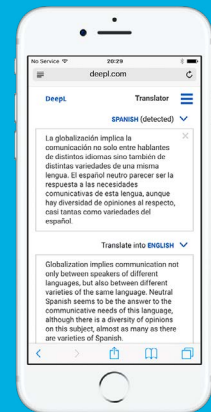
ceramys can be combined with UHMWPE, HXLPE (vitamys) and all Mathys ceramics.

Sources

- ¹ Al-Hajjar et al. «Wear of novel ceramic-onceramic bearings under adverse and clinically relevant hip simulator conditions»; J. Biomed. Mater Res B: Applied Biomater, 101(8), pp 1456-1462, 2013.
- ² Data on File at Mathys Ltd Bettlach.
- ³ T. Oberbach, S. Begand, W. Glien, C. Kaddick. «Luxation test of different ceramic on ceramic couplings»; Key Engineering Materials Vols. 330-332, pp 1235-1238, 2007.
- ⁴ S. Begand, T. Oberbach, W. Glien. «ATZ – A New Material with a High Potential in Joint Replacement»; Key Engineering Materials Vols. 284-286, pp 983-986, 2005.

Intelligent interpreter

DeepL, a new translation tool based on artificial intelligence, gives you the ideal solution for communicating with foreign colleagues and patients from abroad.



To simplify dialogue with foreign colleagues and patients, there is now a new translation tool available. DeepL translates text into the required language at the press of a button.

DeepL currently supports 42 language combinations between English, German, French, Spanish, Italian, Dutch and Polish. Further languages such as Mandarin, Japanese, Russian and Portuguese are planned.

DeepL (L stands for Learning) uses artificial intelligence with an innovative architecture of neuronal networks that have been trained with billions of translated sentences. The system learns independently to translate in a grammatically correct and fluent way.

Translations in all directions are possible, with the system automatically detecting the source language. The DeepL tool can be used free of charge by anyone in their browser: www.deepl.com/translator. Apps for Android and iOS are expected to be available in 2018.



Dealing with «difficult» and anxious patients

Chatterboxes, scaredy-cats, know-it-alls – some patients are a real challenge for hospital staff.

The right communication strategy makes handling «difficult» patients easier.

Everyone is familiar with «difficult» patients. They know everything, they're loud and arrogant, they're never happy or they talk non-stop. Others are anxious, some do not trust your skills or don't understand what you're telling them because they have dementia or lack language skills. One thing that all of these patients share is that they frequently trigger negative emotions such as anger, frustration, rage, stress or helplessness. Instead of labelling patients «difficult», however, it is more useful to see the encounter as a challenge and rely – depending on the patient type – on communication strategies.

The verbose patient

Chatterboxes set out their symptoms in very floral and excessive language. They barely give you a chance to speak and usually have a high need for recognition.

- This type of patient needs attention and care, but you should still set a time window for the conversation.
- By looking at them, lightly touching their arm and addressing them loudly by name, you can interrupt their verbal tsunami: «Mr X, I can see it's very important to you to tell me about your symptoms in detail.» This shows that you are acknowledging the patient as a person.
- Get their consent to ask specific questions: «There are lots of important issues to discuss. My suggestion is that we first focus on your knee pain, and then you answer a few of my questions as succinctly as you can.»
- Then guide the patient with as many closed questions as possible through the consultation.

The anxious patient

Some patients who are very anxious about their procedure are torpid and unable to engage. Others are restless, jittery and appear hunted.

- Do not be affected by the patient's nervous manner. Speak with a calm, firm voice and address how they are feeling: «You're feeling a bit uneasy, aren't you?»
- Ask: «What specifically is making you anx-



ious?» Or «What would help you to be calmer?»

- Communicate safety and establish confidence by reporting on your experiences with other patients: «A patient of your age and in a very similar situation was even able to ride a bike again after this procedure.»
- Many anxious patients are unable to remember what was said after the consultation, so you should write down the key points and give these to the patient.

The know-it-all patient

Know-it-all patients will have done their homework before a potential surgical procedure and will turn up with a stack of print-outs from the web. They will have already made up their mind.

- You can make dealing with this type of patient easier by engaging with and affirming them: «It's great that you're so interested and involved.»
- Set out your perspective on the situation: «... if you'd like, I can explain to you which solution is the best one for you.»
- If the patient is insisting on another, purportedly better surgical method, you can

possibly deflect them through suggestion: «Yes, that's certainly being discussed in professional circles. In my opinion, it's better to ... »

- If they cannot be persuaded, provide some tips on where they can find some genuine information on the Internet, or offer to obtain a second opinion for them.

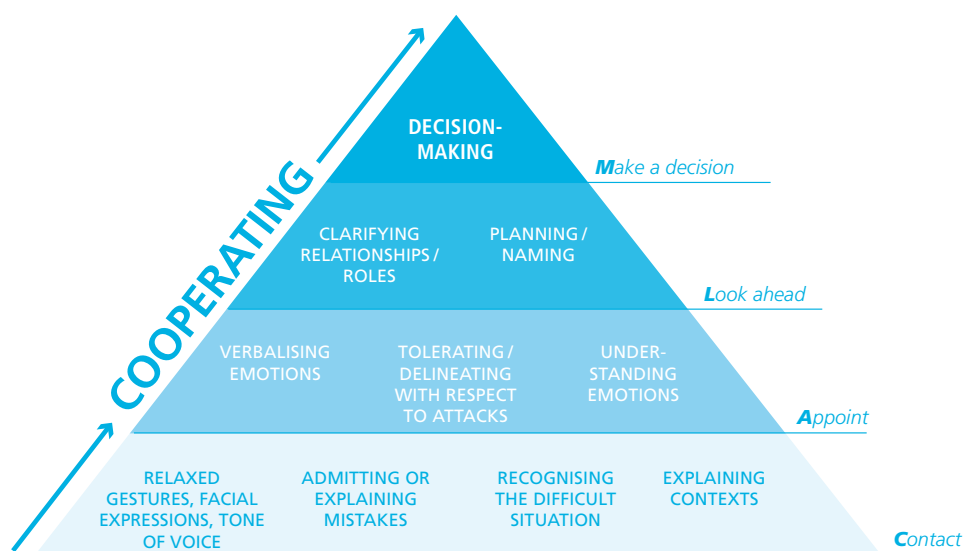
The mistrustful patient

Mistrustful patients are often self-opinionated and doubtful of your skills. For these patients, it is important for them to be able to control the situation.

- Give these patients as much self-responsibility as possible: «I'm going to explain to you the alternative treatments available, and you can decide which one you would prefer.»
- Remove any doubts about your abilities by briefly listing your professional career so far and explaining that «I've already carried out this procedure successfully thousands of times.»
- You should always be fully aware of the medical histories of such patients, since otherwise they may feel justified in their mistrust.

Download

The CALM checklist can be [downloaded](#) here.



Schematic diagram of the CALM model (mod. from Schweickhardt and Fritzsche, 2017)¹

The angry patient

This type of patient is impossible to ignore. They usually vent anger loudly. They can be provocative and at times arrogant.

- Remain friendly, calm and first allow the patient to offload their anger.
- Show interest and reflect back to the patient how the patient comes across to you: «You seem to be very upset. Can you tell me why?» This will often take the wind out of the patient's sails.
- Another calming technique is to respond in an understanding manner and to admit any mistakes: «I can well understand why you are angry. You've been waiting an hour even though you had an appointment. An emergency came in, and we should have let you know.»

To de-escalate conversations with aggressive patients, the CALM model – a conversational technique for emotionally challenging situations – can be useful.¹

The CALM checklist can be [downloaded](#) here.

¹ Schweickhardt A, Fritzsche K. Kursbuch ärztliche Kommunikation. Grundlagen und Fallbeispiele aus Klinik und Praxis. (Medical communication course book. Basics and case studies from clinics and private practice). 3rd edition. Cologne: Publisher: Deutscher Ärzte-Verlag; 2017.

Further reading



Bedside Manner
How to gain your patients' respect, love & loyalty.
Uphill Publishing; 2010

Joan Monchak Lorenz
MSN APRN BC
Stressed Out About Difficult Patients.
HCP Pro Inc; 2007

Joseph E Koob
Caring for Difficult Patients: A Guide for Nursing Professionals.
Infinity Publishing; 2007

Frederic W. Platt MD, Geoffrey H. Gordon MD FACP FAAPP
Field Guide to the Difficult Patient Interview.
LWW; 2004

Masthead

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move! is published by Mathys Ltd Bettlach – your competent partner for total arthroplasty. With new, useful information, *move!* is addressed to specialists in orthopaedics and traumatology in hospitals and practices, as well as all specialist and management staff in the medical field, nursing staff and general

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