

AUGUST 2019

move! ⁹⁵

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

Interview with Prof. Stefan Eggli

Don't jump on board» every trend»

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



Preservation in motion

Using the Affinis Inverse to solve the problem of notching



From the professional field

Agility – more opportunity than hype



«Don't jump on board every trend»



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INTER

Prof. Stefan Eggli

has been CEO of Sonnenhof Hospital in Bern (Switzerland) since 2010, where he heads the Department of Sports and Knee Surgery as he did previously at Bern University Hospital. He completed his orthopaedic training along with fellowships in the USA, France and Germany with renowned experts such as Dr R. Ganz and Dr Maurice E. Müller. His specialist practice includes knee arthroplasty, cruciate ligament and meniscus surgery, cartilage transplantation and the treatment of complex ligament injuries. In addition, Prof. Eggli conducts research in the field of new prosthesis design and is significantly involved in the further development of cruciate ligament-conserving surgical techniques (DIS). Prof. Eggli has received several awards and published numerous articles and book chapters.

Some see robot-assisted surgery and patient-specific implants as the future of joint replacement, while others see them as costly, marketing-influenced, passing fads. Knee specialist Prof. Stefan Eggli puts his trust in using clinically proven implants and ligament tensor.

Professor Eggli, what's your opinion regarding the debate around patient-specific implants and instruments?

In recent years, science and industry have made great efforts to refine artificial joint replacements so that they more closely approximate the anatomy of the human knee joint. Unfortunately, until now, the clinical results have not improved. The hype about patient-specific implants (PSI), which I have never shared, has subsided again. With regards to PSIs, there is still no scientific evidence that actually proves their benefit. What has, however, clearly been demonstrated is their higher cost and workload - two awkward factors in today's debate. All these innovations would certainly not stand up to the criteria of «effectiveness, utility and cost-effectiveness» (EUC) of a health technology assessment.

«There is still no scientific evidence that actually proves the benefit of PSIs.»

Robotics are also increasingly found in operating theatres. What do you think about this trend in orthopaedics?

In more than 20 prospective randomized studies since the introduction of computer-guided knee replacement and PSIs, we have discovered that even the most accurate possible implantation has no influence on the clinical outcome. Even so this story continues to resurface – scientifically speaking it is «spaghetti reheated for the third time», only now with immensely greater effort and investment costs. Logic tells me that this won't provide any benefit for patients. The key benefit is for surgeons; especially since a «standard implant» is ultimately inserted. «Both soft-tissue-balancing techniques and measured bone resection techniques have specific advantages and disadvantages.»

Instead of using navigation, PSIs, robotics, and patient-specific implants, you rely on the ligament tensor and the use of clinically proven and documented implants in knee replacement. Why do you do this and what results have you achieved using these techniques?

As already stated, unfortunately results haven't improved significantly despite all the marketing-driven innovations. The LCS® knee prosthesis, which was introduced more than 40 years ago, still has one of the lowest revision rates in the registries – as, by the way, does the balanSys system. If you've already mastered a technique and know an implant well, then you shouldn't jump on board every trend to thereby having to repeat the entire learning curve with your patients again.

«The main advantage of a softtissue-balancing technique is that the prosthetic component can be adapted to the knee of the individual patient.»

Both the soft-tissue-balancing techniques and the measured bone resection techniques have specific advantages and disadvantages. Surgeons with a low number of cases should focus more on the measured bone resection technique, since soft tissue balancing requires rather more know-how concerning the effect of the different release techniques and, as a result, the outlier rate tends to be higher. In experienced hands, the technique produces very pleasing and reproducible results – especially for complex ligament problems. In these cases, the stability of the knee joint in all degrees of flexion can be controlled significantly better and simply measured mechanically *in vivo*, without computed tomography planning, technical assistants in the OR, and above all without robots!

In your opinion, what are the advantages of a patient-specific, soft-tissue-balancing surgical technique?

The main advantage of a soft-tissue-balancing technique is that the prosthetic component can be adapted to the knee of the individual patient. Because the release precedes the bone cuts, the latter can be performed according to the final alignment of the femoral component, and both the joint line and the size of the component can be adjusted. In contrast, the basic principle of the measured bone resection technique is that, prior to the release, a certain amount of bone – determined according to the size of the implant – is resected from both the proximal tibia and the distal femur. Subsequent adjustments can only be made by changing the height of the polyethylene.

Professor Eggli, thank you for talking to us today!



Latest animation: Ligament tensor



https://bit.ly/31EhkPt











PRESERVATION IN MOTION

Using Affinis Inverse to solve the problem of notching

Two of the main reasons for the failure of inverse shoulder

endoprostheses are suboptimal soft-tissue

balancing due to poor implant size matching and notching.

The Affinis Inverse addresses the problem of notching from two angles. Biological notching, i.e. osteolysis caused by polyethylene abrasion on the scapular neck, is reduced by reversing the implant-material pairings. The humeral ceramic inlay completely prevents the occurrence of PE abrasion on the scapular neck. In conjunction with the glenosphere, made from highly cross-linked polyethylene enriched with vitamin E, tribological wear is again drastically reduced, as a result of which osteolysis occurs only rarely or not at all.

Mechanical notching is reduced by using eccentric implants and medial tapered inlays, which are in practice equivalent to an 8° reduced inclination.

Soft-tissue balancing is optimized by expanding the glenosphere size range to 36, 39 and 42 mm: The additional size 39 allows individual adjustment of stability, soft-tissue tension and offset.



Affinis Inverse metaglene CP

Metaglene as centrepiece

The eccentric glenoid baseplate (metaglene), in particular, contributes to the systematic reduction of the notching phenomenon. When positioned correctly at the bottom of the glenoid, an inferior overhang of 4.0 mm, 5.5 mm or 7.0 mm can be achieved, depending on the size used.

Mathys' unique metaglene 2-peg design, without an inferior screw, also eliminates the risk of implant-on-implant notching of the screw with the inlay in the adduction position, a well-known complication of conventional inferior-screw systems.

In the case of glenoids with severe degenerative changes or additional bone loss, however, a metaglene with a central peg in different length increments is required to restore the centre of rotation. This system with 4 screws and optional locking options – called «metaglene CP» (CP stands for central peg) – was recently developed by Mathys. It is available before the end of 2019.

A toolkit allowing the reproducible generation of bone slices which can be placed under the metaglene CP, is in its final development phase and is expected to be available in about six months' time.



FOR YOUR USE

Smartphones in the OR

There are many reasons to bring a smartphone with you into the operating room, for example, to document the procedure and share it with colleagues or to use relevant medical apps.



nonsterile smartphone or tablet into the sterile area. SteriDev, founded by a medical student, has developed the Clean-Case and has received FDA approval for the product. The sterile CleanCase cover allows surgeons, technicians and other surgical staff to use their smartphones in the operating room without endangering the patient's safety. Via a removable funnel, the mobile device is placed in a sterile housing made of sturdy plastic with a touchscreen surface and camera window. Once the mobile device has been secured in the CleanCase, the funnel is thrown away and the housing is locked and ready for use. The functionality of the mobile device is fully main-

You can learn more about the Clean-Case at <u>www.steridev.com</u>.

FROM THE PROFESSIONAL FIELD



Agility – more opportunity than hype

Many hospitals are faced with increasing cost pressures, more stringent

regulatory and legal requirements, advancing technology

and digitization, as well as social and demographic changes. 1,2

Volatility, Uncertainty, Complexity and Ambiguity – or VUCA for short – characterize the world in which today's hospitals have to prove themselves.

In the early 1990s, US military officials used the acronym VUCA to describe the multilateral world after the Cold War. After the dissolution of the Soviet Union, the military needed to develop completely new strategies to counter new threats.³ The term soon entered the business world to describe the challenges faced by companies in complex environments that are dynamically changing as a result of globalization and digitization.

The answer to VUCA: Agile management

Those who want to survive as a company or organization in the world of VUCA must have the ability to foresee an uncertain future, guard against it, and readjust immediately as conditions change.⁴ Agile management is the answer to VUCA.⁴ In short, agility is the ability of people or organizations to adapt to unknown and unpredictable developments quickly and effectively. Currently, this concept of agility is experiencing a high level of hype – even outside the IT industry.

Agility is more than flexibility

Agile management aims to empower teams and organizations to operate under highly complex conditions, by being flexible, adaptable, and quick. Can this process also be observed daily in the emergency department?

The situation is unpredictable and may be highly complex, since nobody can know in advance precisely how many patients will be seen and with which injuries. The team acts quickly, professionally and flexibly. Within minutes, decisions are made, findings exchanged, and specialists consulted as necessary. Nevertheless, clear processes and solid structures are helpful here. Clinical processes may not necessarily be suitable for agile principles. At least, this is the opinion of hospital managers, a recent study has revealed.⁵

However, in non-clinical fields such as employee motivation, creativity, and knowledge sharing, agile principles are considered to be meaningful and future-oriented.⁵

Agile management requires a new understanding of roles

Agile organizations are characterized by flat hierarchies, interdisciplinary teams and network structures. Agile organizations have a sponsibility on the part of individual teams and employees. In hospitals, agility can be of great benefit to strategic planning and implementation, e.g. when developing and implementing new service offerings or employee-retention programs. However, this requires a fresh management mindset – moving away from «Let's do it now!» towards «I know that I know nothing.» Hospital managers more than ever are required to develop a new, more supportive understanding of roles.⁵



radical customer orientation and use agile methods such as «Scrum» to achieve their goals. (More details can be found in the checklist.) They cultivate an open culture of feedback, error-reporting and trust with a high degree of self-organization and personal re-

Tasks of agile managers

Organizational psychologist Dr Sabine Remdisch, who conducts digital research at Stanford and Lüneburg, has defined the most important tasks of agile managers:⁶



Download

The important information for managing a hospital team using the agile Scrum method can be found in our downloadable checklist.



Further reading

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Scrum Mastery: Agile Leadership to Take Your Team's Performance from Good to Great. Independently published; 1st ed. 2019

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Enterprise Agility in Healthcare: Candid Case Studies of Successful Organizational Transformations. Taylor & Francis Ltd; 1st ed. 2018

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Network moderator

Agile management means «gathering, evaluating and disseminating information from networks, building strong working relationships within networks, adjusting interfaces, setting clear goals and providing rapid feedback.» 6

Visionary & storyteller

Agile managers are required to develop visions. Values and goals must be conveyed through emotional stories, so-called storytelling. If employees recognize an attractive vision of their future, the result is committed participation and loyalty.⁶

Coach

The manager as a coach offers help to foster self-help, gives frequent feedback and thus creates trust and mutual understanding. The manager provides motivation and supports employees in their professional development path.⁶

Frankfurter Rotkreuz-Kliniken has proven that agile structures for hospitals are a matter of sustainability rather than a mere fad. 7,8 After a year of «adventure agility», the management reached positive conclusions: «The team orientation has been strengthened, the silo mentality has been eliminated, the understanding of other professional groups has increased and awareness has been strengthened that the best and correct solution can only be developed by networking all competencies.»⁷

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Publisher:

Mathys Ltd Bettlach • Robert Mathys Strasse 5 • 2544 Bettlach • Switzerland Telephone: +41 32 644 1 485 • E-mail: move@mathysmedical.com Editor responsible for the magazine:

Tanja Rölli • Head of Digital Media & Congresses • Mathys Ltd Bettlach

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

management in hospitals. We would like to thank all of those who have helped us in realising the publication of move! by making individual contributions, or providing information and photographs.