# MAIL360

We'd like your views – write to: The Editor, *Bone & Joint 360*, 22 Buckingham Street, London WC2N 6ET or email editor360@boneandjoint.org.uk

***Computer-assisted surgery is here to stay***

*Dear Sir,*

We read with great enthusiasm our UK colleagues' commentary: *Are robots taking over orthopaedic surgery*.[1] In this age of cost savings and budget reductions, the push for more robotics and patient-specific instrumentation is inspiring. It reminds us of Franklin Delano Roosevelt's response to the crushing Great Depression in the United States by instituting increased spending in the New Deal. It is unclear what will be the full embodiment of this change - will robots be driving the bus while we sit back and watch? Will all orthopaedic implants eventually be custom-made to precisely fit every bone and joint? What is clear is that computer-assisted surgery (CAS) is here to stay and expand. CAS includes a wide variety of techniques: pre-operative computer modeling, robotic surgery, patient-specific jigs and implants. CAS will push professional and industry standards to define the appropriate guidelines for surgical precision. Our main goals should be to define these correct guidelines with CAS, launch research initiatives and then use CAS to implement them accurately. We, as professionals, must approach the same standards of accuracy and precision used in the automotive industry or even the implant industry. The cars we drive and implants we put in are robotically engineered; are we wrong to think surgery will not evolve in a similar fashion?

The approach to CAS is analogous to the use of intra-operative fluoroscopy for hip fractures. In the 1960s, intertrochanteric hip fractures were repaired with an extensile open approach and controlled with one intra-operative uniplanar radiograph. Presently, these operations are undertaken with better implants, smaller incisions and intra-operative biplanar fluoroscopy. The patient benefits from all of these improvements. There are increasing demands, justifiably, that we eliminate the outliers of malpositioned implants and malaligned limbs. As we will never go back to the days of foregoing intra-operative fluoroscopy, someday we may marvel as to how we performed so many of these orthopaedic operations without the benefit of computer assistance. CAS must meet evidence-based medicine and be clinically significant, not just statistically significant, to justify the huge capital outlay. Robots may not be taking over, but they are certainly here to stay and help us.

***Anil Ranawat, MD, Orthopaedic Surgeon,*** *Hospital for Special Surgery, Weill Medical College of Cornell University, New York, NY, USA*

***Robert L. Buly, MD MS, Orthopaedic Surgeon, Hospital for Special Surgery,*** *Weill Medical College of Cornell University, New York, NY, USA*

REFERENCES

1. **Cobb J, Andrews B.** Are robots taking over orthopaedic surgery? *Bone & Joint 360* 2012;1(3):2-4.