

## INTERVIEW

**“THE MORE WE GOT TO LEARN ABOUT BONE CEMENTS, THE BETTER WE UNDERSTOOD THAT THERE ARE BIG DIFFERENCES. WE HAVE CHOSEN PALACOS® R+G SINCE IT HAS THE BEST ANTIBIOTIC ELUTION.”**

Dr. Pablo Sanz tells the story behind his publication “Is the Commercial Antibiotic-Loaded Bone Cement Useful in Prophylactic and Cost Saving after Knee and Hip Joint Arthroplasty? The Transatlantic Paradox” and explains why different bone cements are not the same.

**With your publication in the Journal of Arthroplasty, you have demonstrated the effectiveness of antibiotic-loaded bone cement in reducing the infection rate after joint replacements. What led you to investigate this topic?**

In 2009 and 2010, my hospital was confronted with quite high infection rates – especially in joint replacements. We had to do something about it and discussed various options. The use of antibiotic-loaded bone cement was one of them. Based on a short systematic review of scientific literature we found out that only PALACOS® R+G had evidence to reduce infections. That was the reason why we started using it in 2011. So, my study demonstrates that it was PALACOS® R+G in specific and not another bone cement which made the difference and decreased the infection rate.

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For me, it is important to point that out because during our review, we realised that the use of different bone cements and also different antibiotics resulted in different outcomes. That is why it is important to specify the bone cement in use when we talk about antibiotic-loaded bone cement. It makes a difference.

**Which criteria did you consider most important when deciding on a bone cement?**

Before we started solving our problem with high infection rates, bone cement was not considered that important. It did not seem to be relevant. At that time, we used bone cement only for knee replacements. It was not used in hip arthroplasty, nor in fractures. So, when we started to think

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**Field of interest:**

- Periprosthetic infections
- Complex cases with distorted anatomies
- Operations after multiple previous surgeries

of a solution for the infection rates, we considered bone cement just like a carrier for antibiotics. Evidence was most important for us and after all, we found out that only PALACOS® R+G is proven to decrease infection rates. The more we got to learn about bone cements, the better we understood that there are big differences. We have chosen PALACOS® R+G since it has the best antibiotic elution.

### What hurdles did you have to overcome when you decided to use PALACOS® R+G?

We changed our protocol and the change was quite easy as you only have to change the packet of bone cement. That was no problem. It was also no problem to convince the management since infection cases are very expensive and should be avoided. They can cost around 50,000€ per case. So, we argued that by using PALACOS® R+G the costs will increase 10€ per case but every infection case that we avoid will save 50,000€. We really believed in this option and the management trusted our opinion.

### Do you think that in terms of infections the financial aspect is most important for clinics?

No, I don't think so. The most important thing is that the surgeon as the responsible person believes in a product which is the antibiotic-loaded bone cement in this case. The surgeon's opinion counts and the biggest challenge is to convince him. The cost difference between plain and antibiotic-loaded bone cement is not very big. That's why it did not really matter for the decision. The orthopaedic surgeon's opinion and belief matter.

### What does a periprosthetic infection mean for patients?

It seems that times are changing because in the last 20 years bone infections were considered a chronic problem and people tended to think that bone infections are not a big problem. However, today's data shows that patients with periprosthetic joint infections have a lower survival rate at 5 years than patients with breast cancer, lymphoma cancer or prostatic cancer. The best case is that a patient's joint infection requires two operations to resolve the problem.

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That's the gold standard. The patient stays in the hospital approximately 2–3 weeks with 6–12 weeks between both procedures. Patients usually have difficulties to walk during this period. So, in my opinion, there is no other orthopaedic procedure where patients have to suffer more. A periprosthetic infection is a really big disaster for the

patient – and for the surgeon, too. If there is an infection, it is the surgeon's fault. You feel that it is your fault. The impact on the patient is crazy. So, I cannot imagine in my specialty another pathology where patients have to suffer more.

### So, you recommend strongly to prevent periprosthetic infections?

Exactly. I recommend that. All the money you use for prophylaxis pays off well. There is no doubt. It can be discussed, if a treatment is good or bad, expensive or cheap – but all the money you use for prophylaxis is used well.

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### What would you recommend to colleagues in your field?

I recommend them to use PALACOS® R+G for prophylaxis because there is strong data which proves that it works. It helps with local prophylaxis and is really safe. It is also cost-effective in most countries and an easy way to decrease infection rates.

### You switched to PALACOS® R+G in 2012 and some time has passed now. What do you think how many infections did you avoid in the meantime?

Roughly calculating it, I would guess that with the use of PALACOS® R+G we avoided more than 100 infections.

### That's an impressive number and probably a big saving for the hospital taking into account that an infection rate costs 50,000€, right?

Yes, absolutely. In my hospital the infection rate of cemented implants is actually lower than the infection rate of uncemented implants. The infection rate of the uncemented implant should usually be a little bit lower than the cemented since pathogens like the surface of cements. However, if we use antibiotic-loaded bone cement, the infection rates of cemented and uncemented procedures can be similar. In our experience, the use of PALACOS® R+G can even decrease the infection rate of cemented implants so much so that it is lower compared to uncemented implants. So today, we worry more about uncemented implants, not the cemented ones. ■