SAFIRA™

Giving Anesthesiologists Control

Clinician's View

Dr Morné Wolmarans

Consultant Anesthesiologist

MEDOVATE

Developing Innovation

Dr Morné Wolmarans, a Consultant Anesthesiologist, shares his experience of using the SAFIRA™ device for the first time for single-shot nerve blocks, and his thoughts on what the device has to offer anesthesiologists.

About Dr Wolmarans:

- Consultant Anesthesiologist at the Norfolk and Norwich University Hospitals NHS Foundation Trust in the UK
- Past President and Board Member of RA-UK, and is still heavily involved with the society
- Vice Chair for EDRA Board (European Diploma in Regional Anaesthesia)
- An Executive Board Member of ESRA (European Society of Regional Anaesthesia & Pain Therapy)
- Actively involved in regional anesthesia practice, education and research for over 20 years

Q/ What types of regional anesthesia nerve blocks have you used SAFIRA™ to perform?

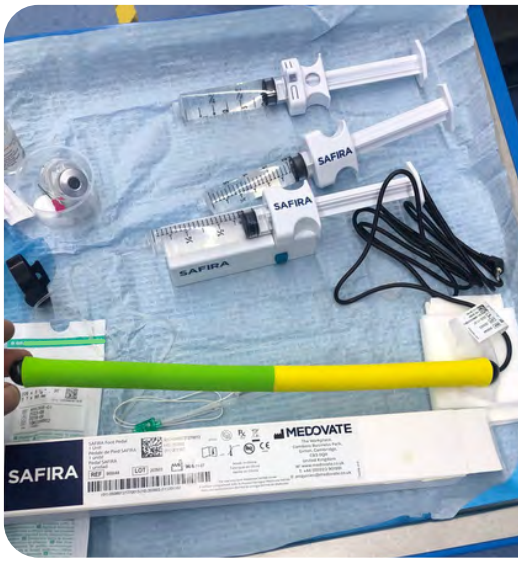
In my daily practice I perform multiple regional anesthesia (RA) techniques. Some of those are individual nerve blocks, such as interscalene blocks, femoral nerve blocks, depending on the actual list I'm doing. I usually perform quite a lot of upper limb, shoulder and hand trauma surgery anaesthesia and also foot and ankle surgery.

But the other part of RA, and I think a very important part, is the fascial plane blocks and we are using the RA-UK Plan A blocks more and more which involves peripheral nerve blocks and fascial plane blocks. Your injection techniques for these different blocks are slightly different, and how you manage and manipulate the local anesthetic into the correct place is also different for the different blocks.

So on average we will be doing between 20 and 40 blocks a week, and that will be a mixture of single nerve blocks and fascial plane blocks.

> ***"It is just a very nice smooth device, it is small enough that you can actually place it anywhere around the patient."***

Q/ What were your initial thoughts about SAFIRA™, and did they change once you had used the device?



I thought initially that this device would just be a gimmick, and that it would not actually have any advantage in my clinical practice. I then unwrapped the **SAFIRA™** device and realised it was so simple to use, and so simple to actually put together.

I then started injecting for the first time. It was a little bit interesting because I was a little bit concerned about having to concentrate on a foot pedal and your hand/eye co-ordination. In the past you've had assistants to do that but actually within a minute or two you realise that it was quite simple and easy.

Also, the rate of injection from the SAFIRA™ device is so nice and slow, and probably more appropriate, that the flow of local anesthetic is at a nice consistent rate.

The foot pedal worked absolutely fine for me. The injection was at an appropriate rate so that you can still see hydro-dissection, you can see the local anesthetic coming out of the needle tip but not that fast that you then end up injecting too much local anesthetic.

Q/ SAFIRA™ enables the anesthesiologist to control the injection themselves – what difference does that make?

In the UK we use assistants to normally inject for us. In my hospital, and I'm sure it is the same situation in other hospitals, the rate of assistance seems to be changing all the time. There is such a turnover of staff so to actually have an experienced assistant who has the experience about how fast to inject, at what pressure to inject, that is becoming more and more difficult.

Even those people that do have experience, it has been shown in studies that the injection pressure is quite variable for them anyway.

So I think that is the first bit, that you can have inexperienced people. Often you do a block and you ask for just 1 or 2mls of anesthetic and they think they should deliver the local anesthetic as quickly as possible and before you know it the total volume has already gone in.

Q/ What difference does the built-in pressure monitoring make when completing a single shot pre-operative nerve block?

The pressure threshold for me was important because often when you do different kinds of blocks you put the needle up to a fascial plane and nerves are always running within fascial planes. So you just have to get right up to a fascial plane or through a fascial plane to then deliver the local anesthetic.

Occasionally, without **SAFIRA™**, you could be tempted to actually force the local anesthetic into a particular area and possibly that is potentially unsafe.

SAFIRA™ actually demonstrated to me when the needle tip was up against a fascial plane, but you have not completely gone through it, because the pressure indicator would alarm.

Secondly, it took the guessing of the pressure out of the system. It's a very clear indicator, a red light comes on, and it stops injecting.

Then you have to aspirate to reset the device, which again is very easy as it is all done with the foot pedal so you don't have to change too much.

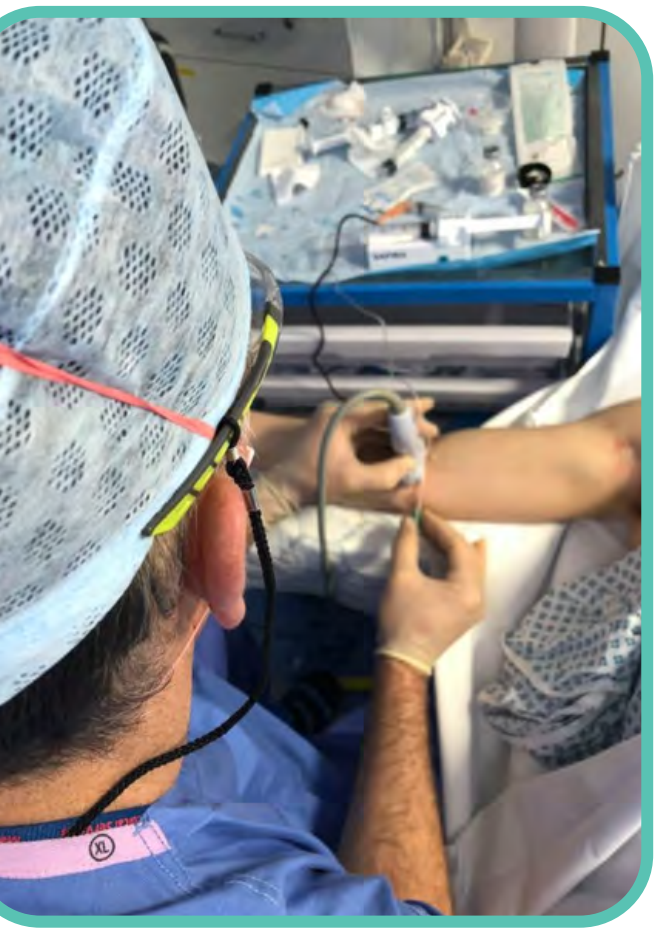
I think that having a consistent pressure is essential and works really well.

> ***"It took the guessing of the pressure out of the system. It's a very clear indicator, a red light comes on, it stops injecting."***

Q/ Why is the hydro-dissection technique important and how does SAFIRA™ facilitate this?

In regional anesthesia one of the major concerns is nerve injury and I've always been a proponent of using hydro-dissection. In other words you inject, you create a potential space and then move your needle into that space. This has been shown to reduce the potential for needle nerve contact and this is exactly when nerve injury may occur.

I think it's very, very unlikely that you'll be able to introduce a needle into a nerve if there's local anaesthetic coming out of the needle tip. So this is one technique that I have always liked to do and that I teach.



In the past with hydro-dissection technique you might use a bit of extra volume because again, your assistant might be inconsistent with how quickly they inject. This may be **one of the biggest advantages, that the SAFIRA™ pressure and the injection rate is very well controlled.**

You then actually end up using a lot less local anesthetic and you can still manipulate the needle around the nerve and on the local anesthetic deposition around the nerve giving you the perfect block.

> ***"With the SAFIRA™ system I often used a third less local anesthetic and achieved my goal...the nerve was nicely surrounded."***

I was surprised in the first 10 blocks that I did that I probably used about a third less local anesthetic than I would have normally used. When I look for block success, I look at how the local anesthetic is actually surrounding the nerve and with an assistant injecting you would often use a lot more local anesthetic volume.

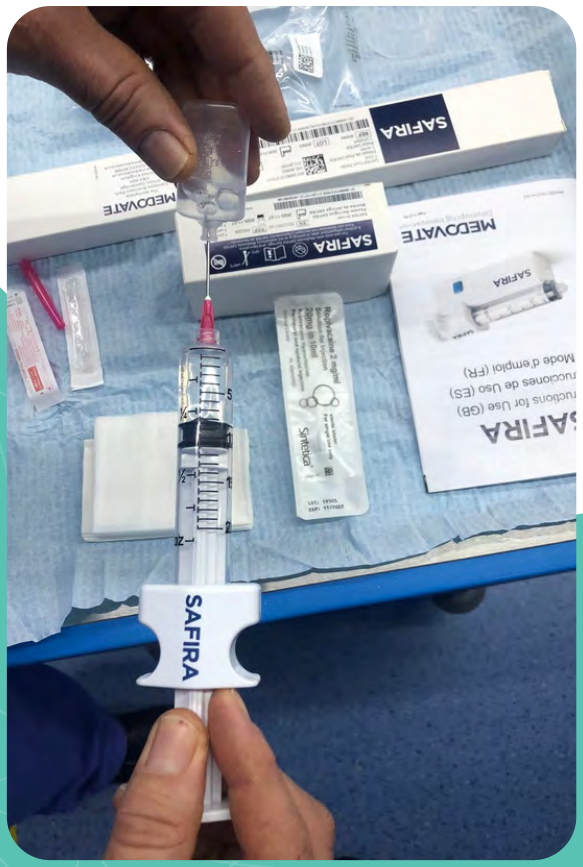
So from that point of view that was a pleasant surprise. Obviously in fascial plane blocks or especially if you have to do multiple blocks, local anesthetic toxicity might eventually come into it. So I think it is important that the lowest volume is used for achieving block success.

Q/ What do you think are the benefits of regional anesthesia being a single person procedure?

Experience of assistants is potentially becoming less and less, and with that lack of experience the injection pressure can vary considerably between different assistants.

With the assistant having less and less experience, and the anesthesiologist having more control I feel you can manipulate and achieve greater success in regional anesthesia.

I know there's a lot of anesthesiologists that actually prefer to inject for themselves and they have developed all sorts of techniques – the 'Jedi' technique, the 'one-handed' technique – and I've got big enough hands I can manage those techniques, and I have done those techniques a few times. But occasionally you lose a little bit of needle control because you are injecting at the same time. Usually you'll have to use a 10ml syringe instead of a 20ml syringe to achieve this.



The injection and the aspiration is on a foot pedal which is very easy to use, is nice and simple with two colours. The learning curve for using the foot pedal was rather straight forward and quick.

You have complete control. Your OPD or your assistant can then actually pay attention to the patient, help you with other bits and pieces and it frees up their time.

So I feel a lot of anesthesiologists are actually wanting to make regional anesthesia a single person technique and **SAFIRA™ absolutely helps you achieve that.**

> ***"I think every regional anesthesiologist that is serious about safety in regional anesthesia should really consider using SAFIRA®"***

Q/ What would you say to other anesthesiologists about SAFIRA™?

I would absolutely recommend using SAFIRA™. I think every regional anesthesiologist that is serious about safety in regional anesthesia should really consider using **SAFIRA®** or an injection pressure technique that monitors not just injection pressure but also the way that you deliver local anesthetic.

> ***"It does give the anesthesiologist complete control & I think it takes the guesswork out of whether you are actually injecting with a high pressure or a low pressure."***

What SAFIRA™ has made me realise is that for many years we have been injecting local anesthetic maybe just too fast around the nerve.

If you inject at a nice slow pace you can actually achieve a successful block, a successful spread of local anesthetic around the nerve without using a big volume.

For those people who are worried that fascial planes and opening up a fascial plane and getting the needle into a fascial plane, that has been managed really well. Yes, the **SAFIRA™** device does tell you when you actually are up against a fascial plane or injecting with a higher pressure but it is very easily remedied. You then manipulate the needle into an area where you can feel there is a change in resistance and **you feel confident** that where you are now injecting is the correct space and at the correct pressure.

What surprised me was the simplicity. Because it looked simple I didn't think it would work so well, and then it worked so well which was quite surprising! **I think it was the combination of really being effective and giving you control.**

I think from a volume point of view, from a nerve safety point of view and from a single handed complete control device, **SAFIRA™ helps you in all of those aspects and I can't see any disadvantages to this device at present.**

Discover more