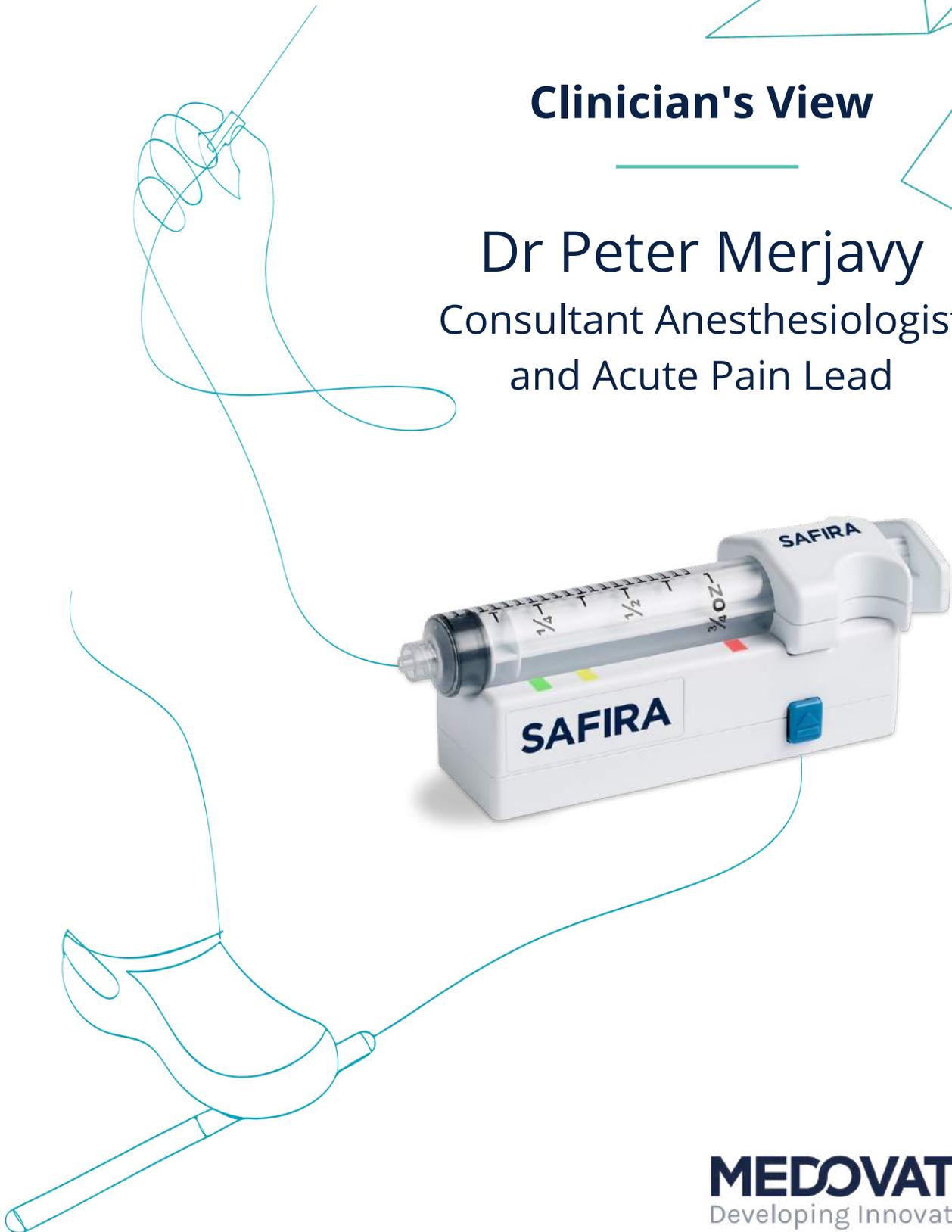


SAFIRA[®]

Giving Anesthesiologists Control

Clinician's View

Dr Peter Merjavy
Consultant Anesthesiologist
and Acute Pain Lead



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Developing Innovation

Dr Peter Merjavy, a Consultant Anesthesiologist, shares his experience of using the SAFIRA® device for the first time across a range of peripheral nerve block procedures.



About Dr Merjavy:

- Consultant Anesthesiologist and Acute Pain Lead at Craigavon Area University Teaching Hospital, Northern Ireland, UK.
- EDRA Examiner & EDRA Board Member
- Chair of ESRA Cadaveric Workshops
- ESRA Newsletter Editor
- SKARA President (Slovak Association of Regional Anesthesia)
- NIRAS President (Northern Ireland Society of Regional Anesthesia)
- Honorary Senior Lecturer, MSc in Regional Anesthesia, University of East Anglia, Norwich, UK

Q/ Are there any implications for anesthesiologist of requiring an assistant for injection during the current regional anesthesia process?

The anesthetic assistant, whether this is a theatre nurse, an anesthetic nurse or a technician, is an extremely valuable member of the anesthetic team. He or she provides a comprehensive patient check: applies monitoring, communicating with the patient, carries out the 'Stop Before you Block' check with the anesthesiologist and of course injects the local anesthetic.

We all know that low resistance injection is required for safe performance of regional anesthesia. But this is quite subjective as there are some variations among the assistants.

They have different levels of training, different levels of experience with peripheral nerve blocks, different perceptions of what is low or what is high resistance during the local anesthetic injection.



“ SAFIRA® allows people to use small volumes of local anesthetic for hydro-dissection, and therefore safe needle tip advancement ”

Q/ What was the impact for the wider team, including the assistants, when you first used the SAFIRA® device?

The anesthetic assistants initially felt under pressure and intimidated that we wanted to get rid of them, which is absolutely not true.

After a short explanation about what the device does and how it can help us to deliver safe regional anesthesia, it actually prompted very wide interest in the device, and actually opened many questions which we normally don't discuss among the team about the high injection pressures and the importance of slow injection when we reposition our needle during the performance of the nerve block.

So that was a really interesting side effect or by-product of using **SAFIRA®** in clinical practice.



Q/ What types of nerve block have you used SAFIRA® to perform?

I had the pleasure to use **SAFIRA®** in my daily clinical practice during the last couple of weeks, and I must say, it was a very exciting journey.

I have used SAFIRA® for a variety of upper limb blocks – interscalene, superficial cervical plexus, suprascapular nerve, infraclavicular, axillary brachial plexus blocks, as well as distal forearm individual upper limb nerve blocks.

I also used **SAFIRA®** for lower limb peripheral nerve blocks like lumbar plexus, presacral, suprainguinal, fascia iliaca, femoral, obturator, as well as femoral triangle, or some people call it adductor canal block, and of course popliteal blocks.

Q/ Were there any nerve blocks where you felt using SAFIRA® was particularly helpful?

I found **SAFIRA®** very helpful in the vast majority of blocks I have already mentioned. But the most significant volume saving effect I observed in my clinical practice during superior trunk block for shoulder surgery, axillary brachial plexus block, femoral nerve block, popliteal and femoral triangle block.

Q/ You used SAFIRA® for a femoral triangle block for TKR with 'challenging anatomy' - did the device deliver any specific benefits you were not expecting?

We use femoral triangle block as a valuable block in addition to spinal anesthetic for primary total knee replacement in our institution for a number of years now. Physically we target three nerves: saphenous nerve, nerve to vastus medialis muscle and medial or intermediate cutaneous nerve of thigh.

Our own data showed better mobilisation and patient satisfaction as well as significantly reduced quadriceps weakness when smaller volumes of local anesthetic are used for the block.



I would typically use 10ml of local anesthetic and I realised that when using **SAFIRA®** I was able to achieve the desired local anesthetic spread and still saved 20 – 25% of my local anesthetic.

SAFIRA® allows people to use small volumes of local anesthetic for hydro-dissection and therefore safe needle tip advancement for femoral triangle and many other peripheral nerve blocks.

“ *I realised that when using SAFIRA® I was able to achieve the desired local anesthetic spread and still saved 20 – 25% of my local anesthetic.* ”

Q/ What benefits do you think SAFIRA® provides the regional anesthesiologist completing pre-op nerve blocks?

SAFIRA® gives complete control of entire performance of peripheral nerve block to the anesthesiologist, whether you use ultrasound guidance or nerve stimulation for your nerve blocks.

It allows slow and precise injection of local anesthetic making the real time hydro-dissection, opening the fascial plane and advancing or repositioning of the needle tip very easy.

It often leads to the use of less volume of local anesthetic compared with our traditional techniques. Advancing the needle into the sort of 'bubble' of local anesthetic prevents direct needle tip nerve contact and therefore may potentially reduce paresthesia nerve injury and increase the safety of the nerve block performance.



Q/ How beneficial did you find SAFIRA®'s aspiration function?

When we talk about patient safety we need to mention the ability of the **SAFIRA®** device to offer the possibility of aspiration prior to any injection of local anesthetic.

Negative aspiration together with observation of local anesthetic injection spread under direct ultrasound guidance has been shown to dramatically reduce the incidence of local anaesthetic systemic toxicity.

“ I can operate the pedal intuitively without even looking at it. ”

Both important tasks, injection as well as aspiration are performed by the operator using the simple foot pedal. Pressing the yellow part of the pedal results in aspiration and pressing the green part of the pedal injects local anesthetic. For double check,

the **SAFIRA®** device will flash the appropriate light color just next to the syringe with the local anesthetic – yellow light for aspiration and green light for injection.

I tend to actually position the foot pedal with the green to the right and operate the foot pedal with my right foot only, to mirror my habits from driving my car. Accelerator, or injection, to the right and brake, or aspiration, to the left. This way I can operate the pedal intuitively without even looking at it.

Q/ What was your experience of the built-in pressure safety system?

In case there is high resistance during an injection, which may be associated with intraneural injection, **SAFIRA®** has embedded the safety pressure system.

This will stop any further injection of local anesthetic and will start to flash red to highlight the importance and trigger the appropriate response from the operator. It also will flash red of course when the whole volume of local anesthetic is injected.



Assembling of the system comprises only of attaching the cable from the pedal and clicking the syringe to the main driver unit, which is confirmed by the clear 'click' sound, and the system is ready to go within a matter of seconds.

“The system is ready to go within a matter of seconds.”

Changing of syringes is again very easy. Click the release button, swap the syringes, attach to the needle and click back to the unit. This way even the larger volumes required for certain blocks like fascia iliaca block or ESP can be used without any issue.

Q/ What is the one benefit that SAFIRA® provides that really stands out for you based on your experience?

Just one benefit? That is not easy to say. Apart from what I already mentioned I would say that **SAFIRA®** is a very practical and portable device which allows clinicians to deliver safe regional anesthesia in a variety of environments, from the luxury of our operating theatres, to emergency departments, to remote places, such as major disasters, where use of regional anesthesia has proven to be crucial for providing anesthesia and analgesia.

“SAFIRA® is a practical and very portable device.”

Q/ Have you used SAFIRA® with trainee anesthesiologists at all?

I have used **SAFIRA®** with my trainees for both needling training on the gel phantom as well as directed supervised use in real clinical practice.

The feedback from the trainees was very positive. They found it really easy to operate, even without any previous introduction or huge experience. All trainees stated that **SAFIRA®** does not require a long time to master proficiency, as the learning curve to use the device is very steep.

“*Actually, why would you not want to use it?*”

Q/ Any final thoughts on the SAFIRA® device that you would like to share?

My final thoughts? If you want to stay in control of your injection and aspiration during the performance of peripheral nerve blocks and you want to ensure you avoid high pressure during the injection, and if you want to

reduce the volume of local anaesthetic without compromising your success, **SAFIRA®** is the tool which can help you achieve these goals. And actually, why would you not want to use it?

Peter Merjavy 🇨🇪 🇺🇸 🇬🇧 @PeterMerjavy · May 26

For now we're happy to use the foot pedal. Especially with specific socks to remember which pedal is for injection and aspiration and further reduce the potential for human error 😊🤓 #humanerror @LaureMartin13 @ATICS_SHSCT @ESRA_Society @cdrrogers @medovate



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Successful use of SAFIRA device even in challenging anatomical situation. Femoral triangle block for TKR
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