



# FARAPULSE sedation workflow – Centre experience

## Catharina Hospital, Eindhoven, Netherlands

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### INTRODUCTION

Catharina Hospital Eindhoven is one of the largest peripheral hospitals in the Netherlands. The sedation practitioners sedate 3,500 patients per year, 1,150 of which are performed in the electrophysiology department.

Effective and safe sedation management requires continuous monitoring of heart rate, blood pressure, capnography and oxygen saturation.

The presence of skilled sedation practitioners is essential to manage sedation effectively.

National guidelines for sedation outside the OR have been implemented since 2009 in the Netherlands. In response to these guidelines, a 12-month nationwide course of standardized sedation training is in place. It grants nurses an anesthetist and sedation practitioner certificate.

### Centre's Approach

#### Deep Sedation led by specifically trained sedation practitioners under the supervision and responsibility of the anesthesiology department

Key criteria	Description
Team configuration/ staff	A pool of 11 sedation practitioners, belonging to the anesthesiology department, supports different departments' sedation needs.
Sedation management	Certified sedation practitioners supervised by the anesthesiology department.
Roles & Responsibilities	One sedationist manages only the sedation procedure. The supervising anesthetist will be available within 5 min if support is needed. The responsibility lies with the anesthesiologist.



Key criteria	Description
<b>Sedation regimen</b>	<p>Induction: Propofol bolus 1 mg/kg, 10-15 mg Ketamine, 1 mg/kg Lidocaine 0.25 mg Alfentanyl</p> <p>Maintenance: Propofol perfusor 5-10 mg/kg/hour Alfentanyl perfusor 8-25 mg/kg/hour Peripheral noradrenaline 0,01 mg/ml guided by the blood pressure: normotensive.</p> <p>Stop the Propofol and Alfentanyl when the Electrophysiologist starts the ablation of the 4th vein.</p> <p>Clear communication between the team members is very important during treatment.</p>
<b>Monitoring set-up:</b>	Intravenous canula   continuous non-invasive blood pressure every 3 min   oxygen saturation pulsoxymetry   capnography   oropharyngeal airway   6 litres of oxygen on capnography/ oxygen mask.
<b>Work-flow:</b>	<ul style="list-style-type: none"> <li>• Initiation of Propofol, Ketamine, Lidocaine and Alfentanyl bolus and hereafter starting at the minimum infusion rate reaching sufficient sedation for placement of oropharyngeal airway.</li> <li>• Infusion rate determined holistically based on blood pressure measurements, oxygen saturation and respiration rate and level of unconsciousness. Ramsay 5-6 is needed.</li> </ul>
<b>Protocol implementation steps</b>	<ul style="list-style-type: none"> <li>• Every hospital in the Netherlands has a local sedation commission that is responsible for the translation of national guidelines for sedation outside the OR into a local hospital protocol.</li> <li>• There is a sedation protocol for each department, that the sedation practitioner needs to adhere to.</li> </ul>
<b>Discharge approach</b>	The usual discharge approach is same-day discharge for most patients, including patients after deep sedation or general anesthesia.
<b>High risk patients (comorbid, elderly, etc.)</b>	<ul style="list-style-type: none"> <li>• The sedation practitioners are allowed to sedate patient with all ASA scores. Before starting a sedation of an ASA 4 patient, the anesthesiologist is involved to inform about the high-risk sedation.</li> <li>• In Catharina Hospital, the max BMI for sedation is determined at 43. Other hospitals may have different max BMI definitions for sedation.</li> </ul>



At Catherina Hospital, the sedation protocol is a crucial part of the optimized workflow in the EP lab. When it comes to AF treatment with PVI catheter ablation, these procedures are almost entirely done through FARAPULSE Pulsed Field Ablation technology. Notably, the smooth lab workflow combined with this PFA technology has yielded in reduced waiting time to receive an ablation procedure. Increased patient, and not least, team satisfaction are certainly desired results of this.

## CONCLUSION

The sedation practitioners in the Netherlands have shown through years of experience that sedation outside the OR lead by sedation practitioners is safe with a high level of quality.



*A trolley that can be moved between different labs is fully equipped with monitoring tools and material the sedation practitioner needs.*



Access EDUCARE Cardiac Electrophysiology Online Learning Resource:

<https://educare.bostonscientific.eu/s/cardiacelectrophysiology>

Loes Braam was compensated by Boston Scientific for their time in drafting this case report.

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