

Visually Enhanced Mental Simulations

An open access resource for clinical educators



Optimus
BONUS

Optimus

BONUS

Bank Of iNdependently Useful Simulations

Part of the Children's Health Queensland 'Optimus' curriculum.

Optimus BONUS : VEMS Pack

Published by the State of Queensland (Queensland Health), July 2024



This document is licensed under a Creative Commons Attribution 3.0 Australia licence. To view a copy of this licence, visit creativecommons.org/licenses/by/3.0/au

© State of Queensland (Queensland Health) 2024

You are free to copy, communicate and adapt the work, as long as you attribute the State of Queensland (Queensland Health).

For more information contact:

Simulation Training Optimising Resuscitation for Kids (STORK) Unit, Queensland Children's Hospital, 501 Stanley St, South Brisbane QLD 4101, stork@health.qld.gov.au, phone .

An electronic version of this document is available at <https://www.childrens.health.qld.gov.au/research/education/queensland-paediatric-emergency-care-education/optimus-bonus/>

Disclaimer:

The content presented in this publication is distributed by the Queensland Government as an information source only. The State of Queensland makes no statements, representations or warranties about the accuracy, completeness or reliability of any information contained in this publication. The State of Queensland disclaims all responsibility and all liability (including without limitation for liability in negligence) for all expenses, losses, damages and costs you might incur as a result of the information being inaccurate or incomplete in any way, and for any reason reliance was placed on such information.

Contents of this educational package:



Printable VEMS images
for paediatric
resuscitation scenarios.



VEMS tips and tricks



Resources about VEMS

VEMS: Visually Enhanced Mental Simulation

What is VEMS?

VEMS is a group simulation exercise where participants talk through, role play conversations and complete tasks in a simulation with low physical realism. The patient and the equipment in the simulations are paper cutouts, allowing teams to efficiently work through a variety of scenarios.

VEMS is well suited to simulations that focus on teamwork and communication, systems and processes, crisis resource management principles, and clinical reasoning. VEMS does not provide opportunity to rehearse procedural skills and therefore scenarios that focus on these aspects of patient care are less suited to this modality.

Pack Contents

Unlike our other BONUS packages, this pdf contains resources designed for running a VEMS in your service.

The document contains guidance on facilitation, a video demonstration of how we use VEMS in our Optimus PRIME course, and a series of printable resources that are suitable for laminating for use in paediatric resuscitation scenarios.

We suggest printing appropriate pages relevant for your service in colour A3, then laminating the paper prior to cutting it into individual pieces of equipment.

Packs can be stored easily in an A3 sized document case.

How it works:

- Orientate team to the scenario setting and use of VEMS [see Pre-Brief section below]
 - Role model how to use the laminated equipment by applying appropriate equipment to the patient diagram, writing up requested drugs on the 'infusion' or 'drug' paper, and encouraging engagement with the communication aspects of the simulation as in real life.
- During the scenario, provide oral feedback on what the patient looks like, and either narrate the patient's obs as they are applied to the patient, or utilise a virtual obs machine as an adjunct for the scenario to provide some auditory and visual cues.
 - With VEMS you may need to help the team "buy into" the fiction contract. It is useful to proactively give them details that they would see if the patient was there.
- Debriefs can run similar to other scenarios you might run in different circumstances.

Demonstration Video:



Pre-brief:

An effective pre-brief is key to the success of the simulation and the degree to which participants engage. This should include orientation to the exercise, expectations of realism and how the scenario will be debriefed.

A sample pre-brief can be found below.



“Welcome to our simulation for the day!”

Invite the group to gather around the ‘patient and equipment’ on the table.

“Over the next ... mins we will run a tabletop exercise.

There are main goals for this exercise are”

Orientate the participants to the laminates of the patient, equipment and other resources laid out on the table.

“There’s a sick child coming into your department, and we’d like you to manage them as if you were in your own clinical environment. So rather than standing around and listing what you’d do, we really want you to jump in and use the equipment provided, write down your medications and infusions, and communicate with each other as if you were at the bedside.

We will try to fill in the details you would see, what the patient looks like, their observations when monitoring is applied and other important details like procedural success/failure or responses to interventions.

We find this a great way to rehearse our team approach to sick children. The more you can engage in the process the more useful it will be! Let’s get started...”

Facilitation Tips:

To get the most out of your scenario and learners, you should consider having the following equipment available, in addition to the printed resources below.

Physical Equipment:	Hospital paperwork / files:
Table	Observation charts with early warning tools (CEWT)
Whiteboard or blank laminated page and fine markers	Drug/ Infusion order chart (if relevant in your setting)
PC with access to QPEC	CREDD Book or other relevant drug guides
Role label stickers e.g. team leader/ circulation, etc.	

The scenario format can be adapted to suit the clinical case and learner group.

Options include:

- running to completion with a formal debrief at the end
- pause and discuss
- 'Live, die, repeat'

A VEMS scenario is debriefed using traditional debriefing models.

Resources about VEMS



International Journal of Healthcare Simulation:

- *A form of mental simulation with significant enhancements enabling teamwork training*



ICENet Blog Post: Vic Brazil

- *VEMS – An Alternative Delivery Format?*

References and Acknowledgements

The STORK team would like to acknowledge the work of the original creators of VEMS, as well as the pioneering work of Gold Coast University Hospital and Bond Translational Simulation Collaborative in promoting VEMS as a viable simulation format.

- Dogan, B., Pattison, N., & Alinier, G. (2021). *A form of mental simulation with significant enhancements enabling teamwork training*. International Journal of Healthcare Simulation. from 10.54531/JSHC9951.
- Brazil, V. (2022) *Visually enhanced mental simulation (VEMS) – an alternative simulation delivery format?*, ICE Blog. Available at: <https://icenet.blog/2022/04/12/visually-enhanced-mental-simulation-vems-an-alternative-simulation-delivery-format/> (Accessed: 05 July 2024).

About STORK

In 2014, Children's Health Queensland funded the 'Simulation Training Optimising Resuscitation for Kids' service. STORK is a paediatric education team focused on improving healthcare outcomes for children throughout the state.

STORK has developed a number of courses aimed at different phases of paediatric critical care :

- **CORE** is a course for first responders to a paediatric emergency, and teaches recognition of the deteriorating patient, Children's Early Warning Tools, and resuscitation competencies.
- **PRIME** is a course for mid phase responders who look after unwell patients while awaiting for retrieval or escalation to an Intensive Care. It aims at contextualising Seizure Management, Intubation and Inotrope Administration within host hospital's real clinical environments in order for healthcare teams to generate their own practice improvement strategies as well as link peripheral hospitals with high quality resources.
- **PULSE** is a CPR refresher course based on the principles of Rapid Cycle Deliberate Practice.
- **BONUS** was proposed as a solution to skill and knowledge decay after these courses are run.

If you would like to know more information about STORK or acquire copies of our resources, please contact us at stork@health.qld.gov.au.

About the Creators :



Dr Dan Hufton

@danhufton

MRCPCH, MBBS (Hons)

Paediatrician and STORK Simulation Fellow, Queensland Children's Hospital

Dan is a husband, father to 3 children and a Paediatrician with a keen interest in Simulation-Based education (SBE) and translational simulation. He has an interest in human factors and how we can use SBE to improve system performance and staff wellbeing. Currently working as simulation fellow with the STORK team based at QCH to deliver, design, and innovate SBE that improves paediatric critical illness and resuscitation training in healthcare settings across Queensland.



Ms Louise Dodson : Adrenaline Preparation Videos

BHlthSc, GradCertClinSim

Louise has been a Simulation Leader since establishing the Simulation Program for the Royal Children's Hospital in Brisbane over 10 years ago. She co-created the original OPTIMUS CORE course in 2013 to improve paediatric resuscitation training throughout Queensland.

The course has been delivered to more than 5000 health care professionals throughout Queensland since that time. Louise has a background in paediatric emergency nursing and tries to keep her left foot in clinically. She has also completed a grad cert in simulation and clinical education.



Dr Ben Symon : Consultant Supervisor, Infographics and Editor

@symon_ben

RACP PEM, MBBS, BAnim

Simulation Consultant and Paediatric Emergency Physician

Queensland Children's Hospital and The Prince Charles Hospital

Director of Clinical Simulation, Mater Education

Dr Symon is a PEM Physician and Simulation enthusiast with a passion for translating clinical and educational research to front line health care workers. He is co-producer of the podcast '[Simulcast](#)' and faculty on the APLS Educational Skills Development Course and international faculty for the Master Debriefing Course by [the Debriefing Academy](#).



Dr Carolina Ardila : eLearning and Multimedia

@caroelearning

MBBS, MPH(TH), GradDipHlthMgt

Dr Ardila is a medical doctor from Colombia with an award winning skill set in eLearning development. Carolina has been working on eLearning for the last 4 years at the Royal Brisbane and Women's Hospital and Children's Health Queensland. During these years she has developed extensive knowledge in designing, developing and implementing engaging courses and launching award winning paediatric eLearning. She has a special interest in emergency and neonatology and in her spare time loves making videos and improving her animation and drawing skills.



Dr Danielle Scarfe

FACEM, PEM

Dr Scarfe is a Paediatric Emergency Physician at Queensland Children's Hospital and EMET lead for STORK, Children's Health Queensland state-wide simulation service. Originally from the UK, she left the NHS in search of sunnier skies in 2011 and has called Queensland home ever since.

Danielle is passionate about improving Paediatric Emergency Care in all settings through education, evidence-based practice and quality improvement initiatives.

When not being paid to look after children, she is kept on her toes by her own.

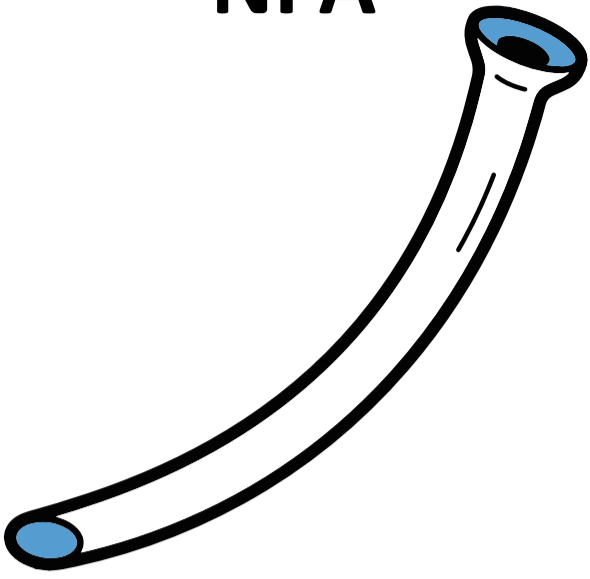
Printable resources



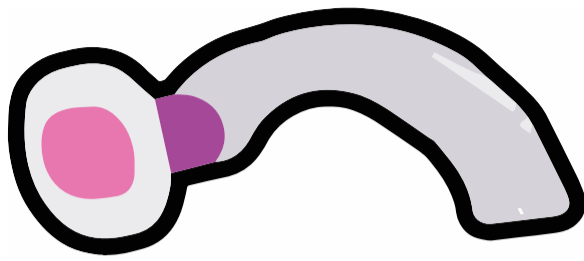
Optimus
BONUS



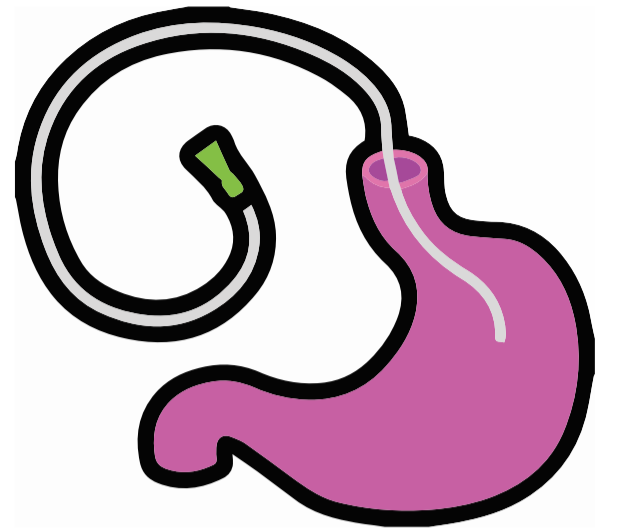
NPA



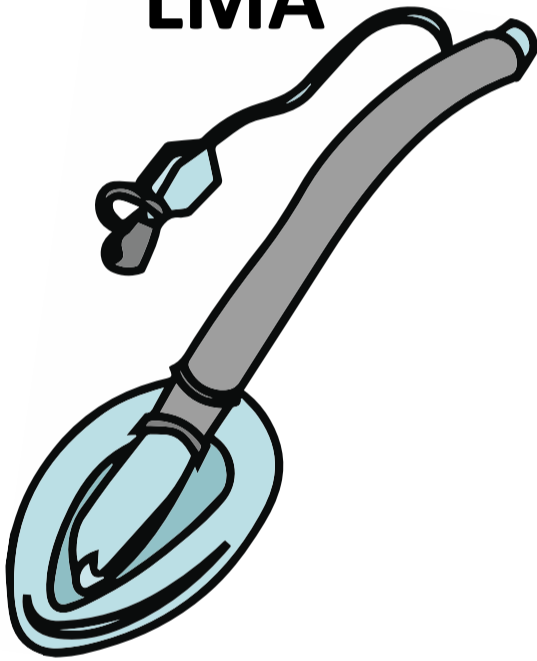
OPA



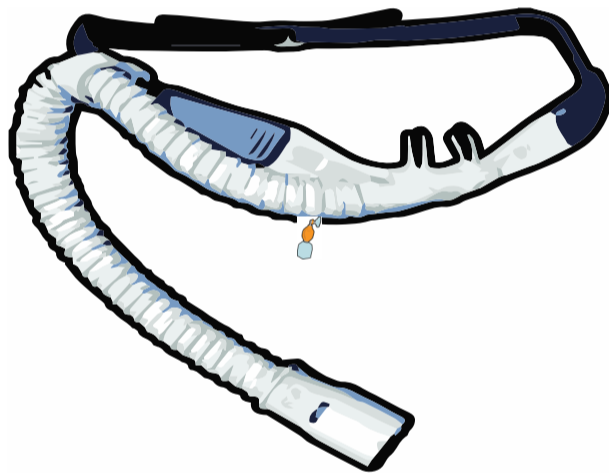
Nasogastric



LMA



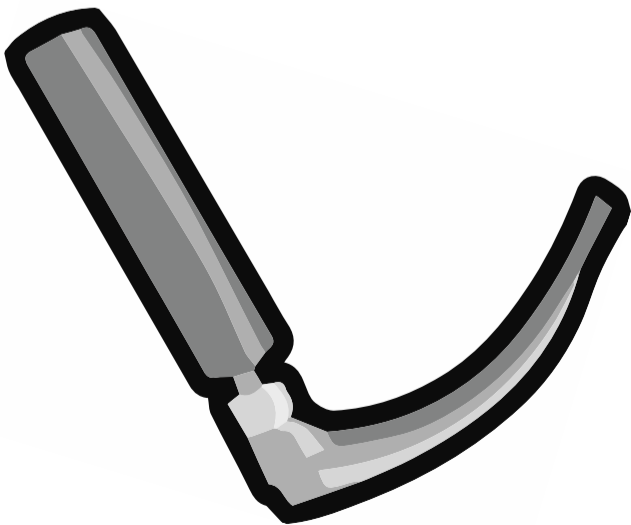
High Flow O2



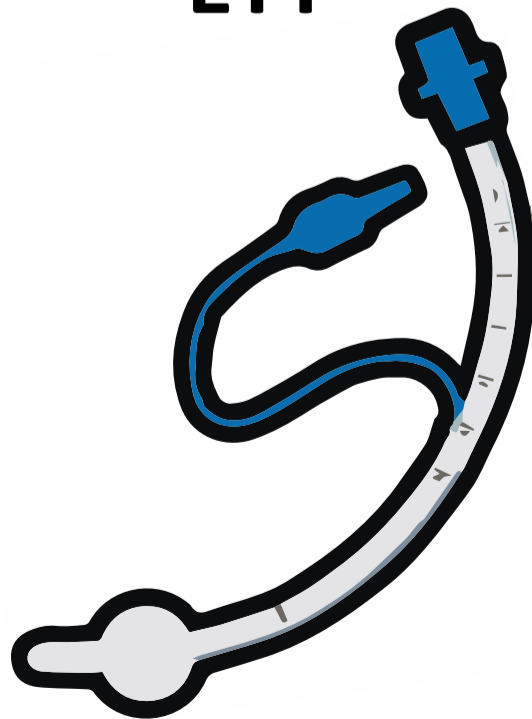
Oxygen Mask



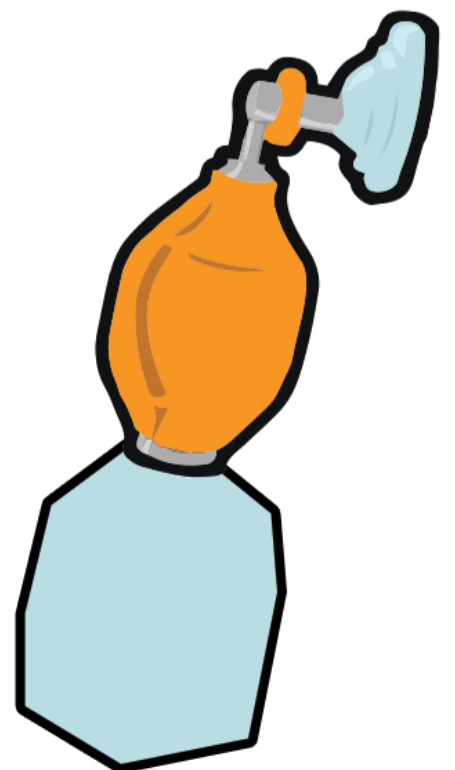
Laryngoscope



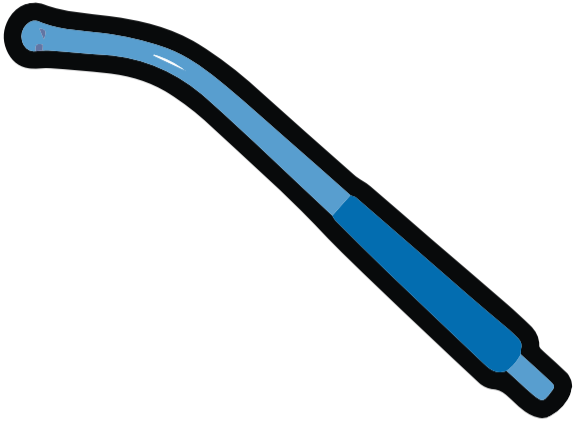
ETT



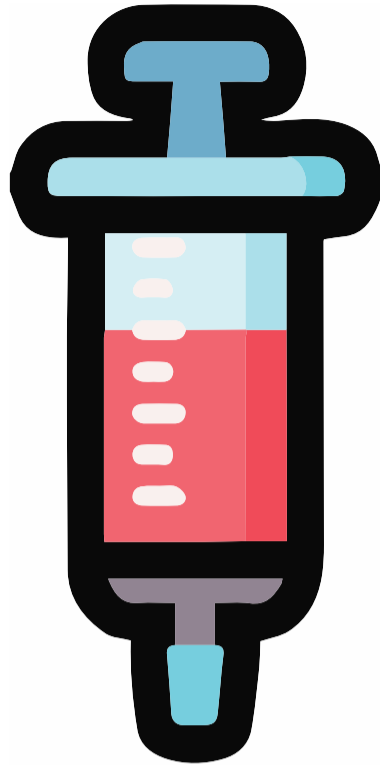
Bag Valve Mask



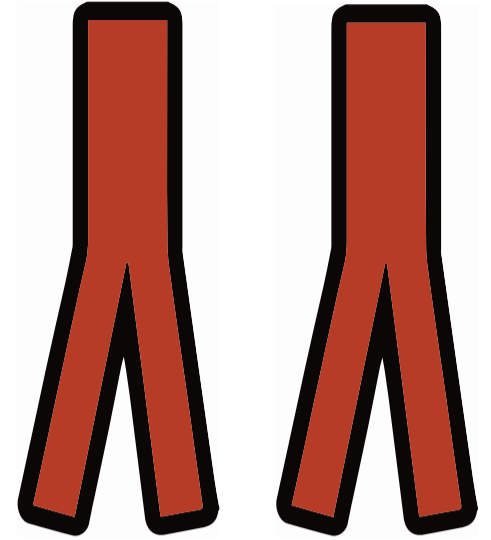
Suction



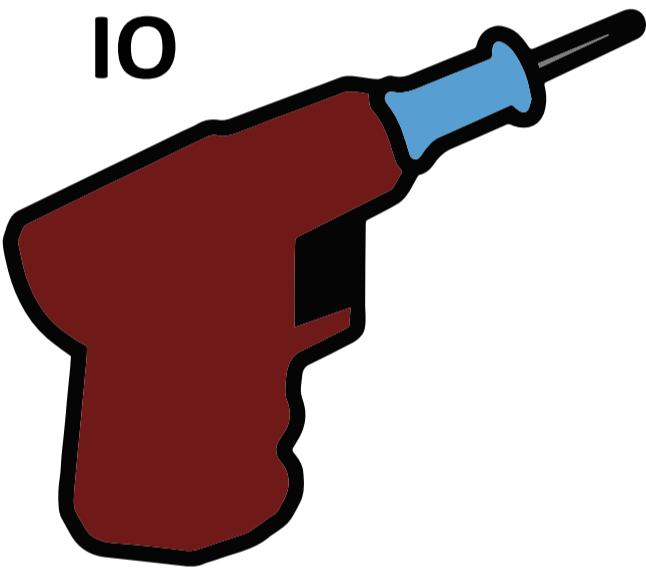
Blood Gas



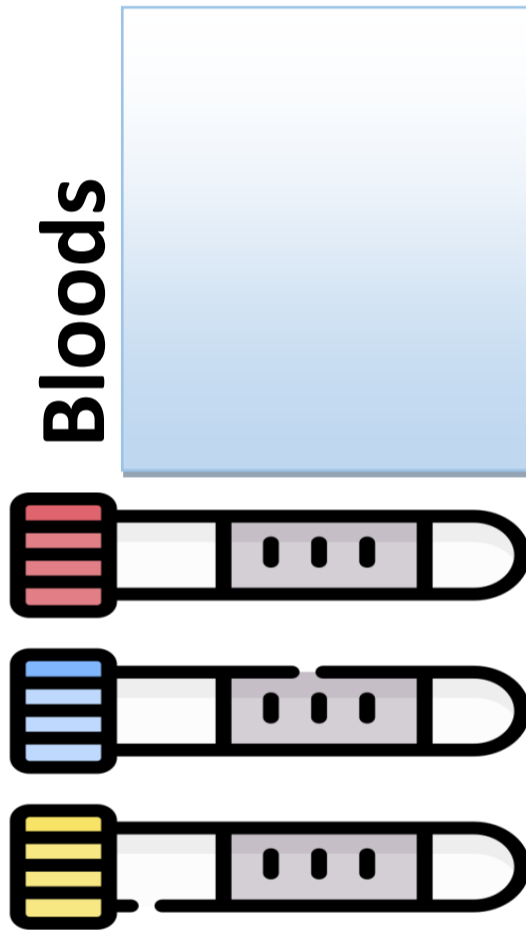
ETT tape



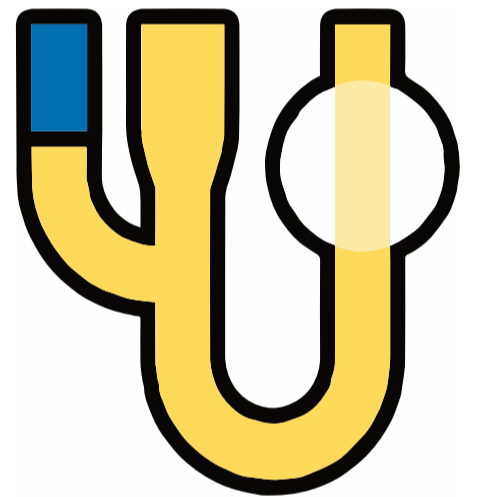
IO



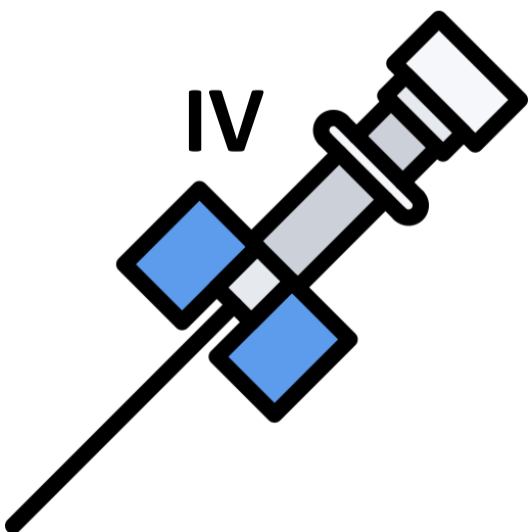
Bloods



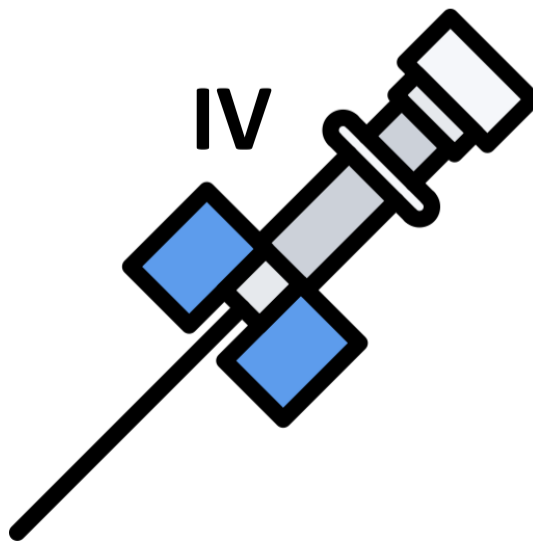
Urinary Catheter



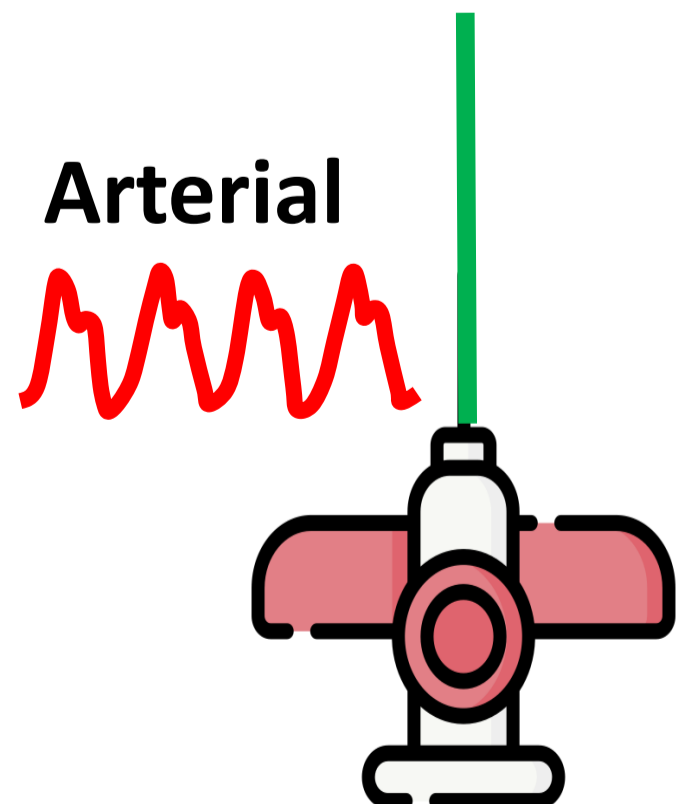
IV



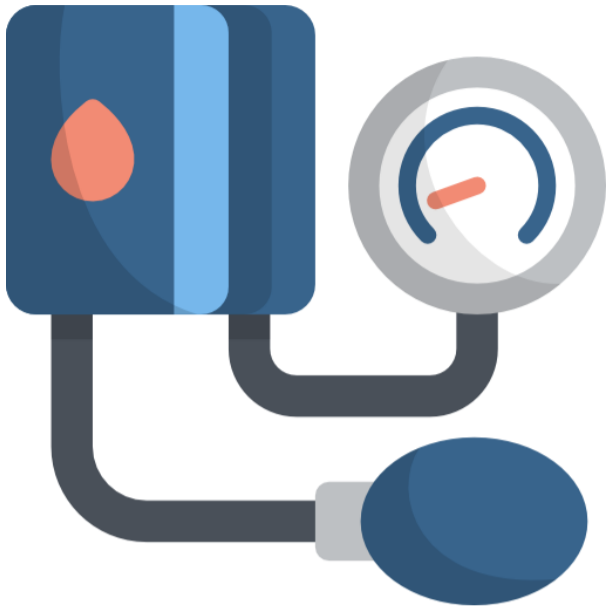
IV



Arterial



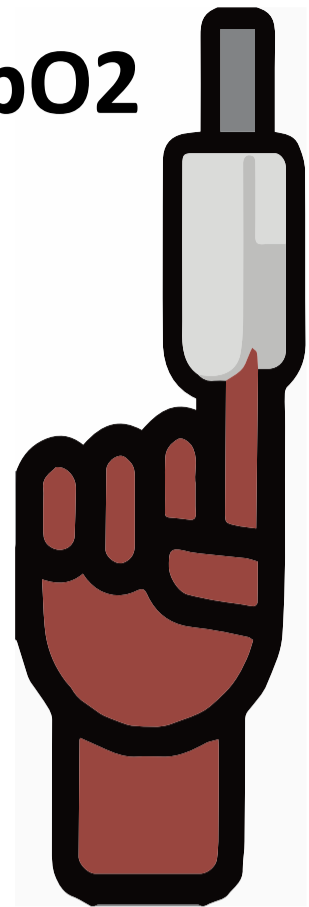
Blood Pressure



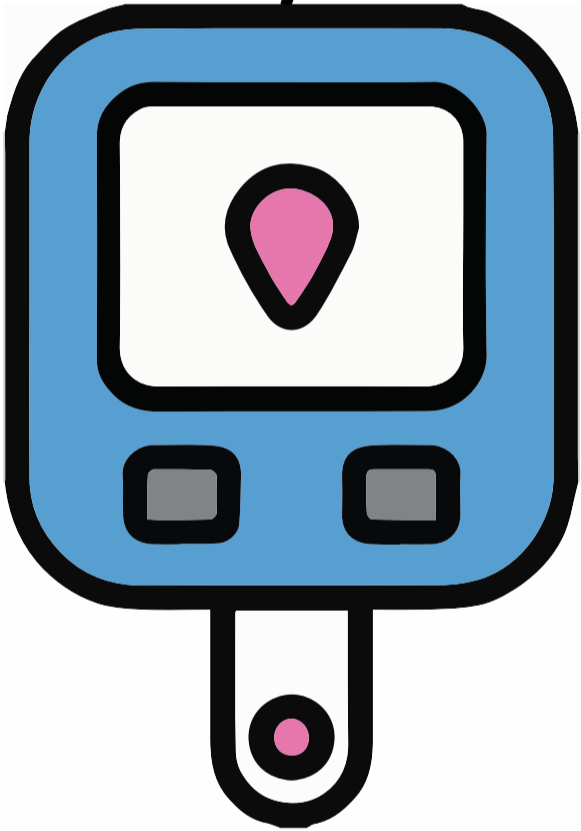
ECG Monitoring



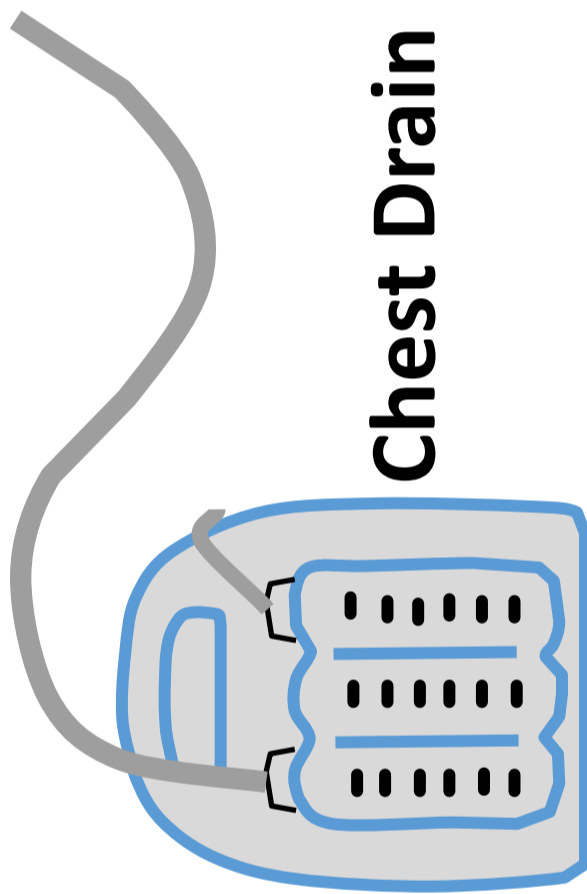
SpO2



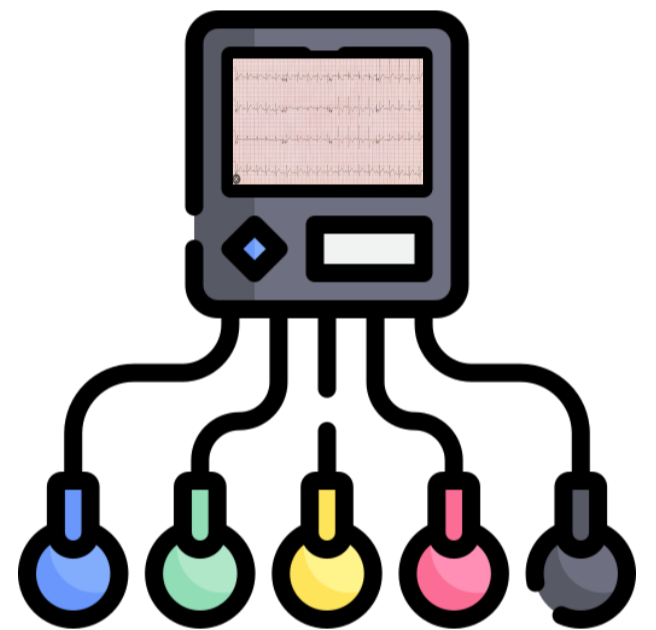
Glucose/Ketones



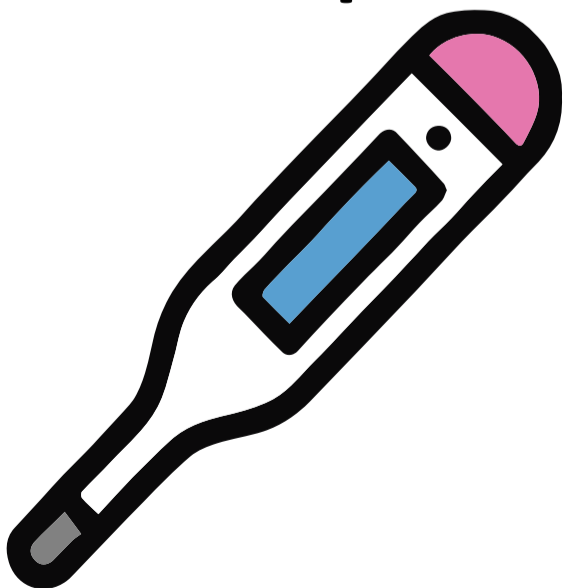
Chest Drain



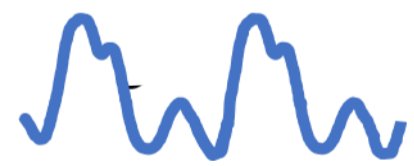
12 Lead ECG



Temp

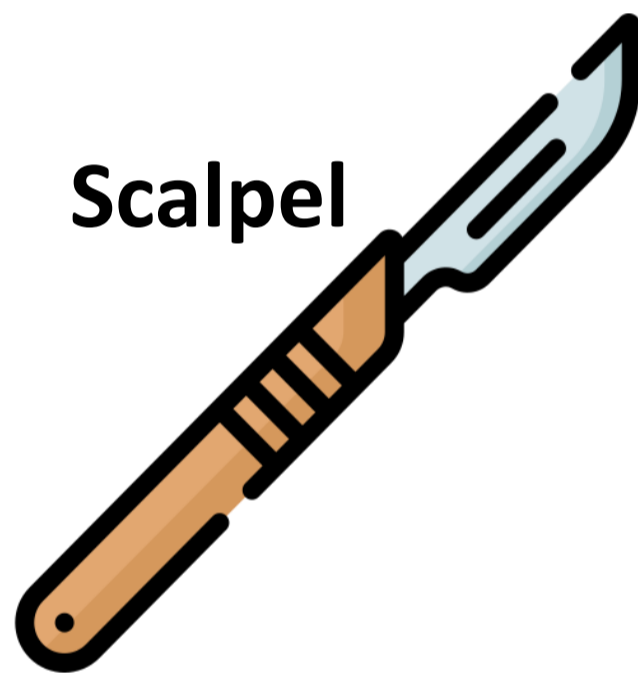
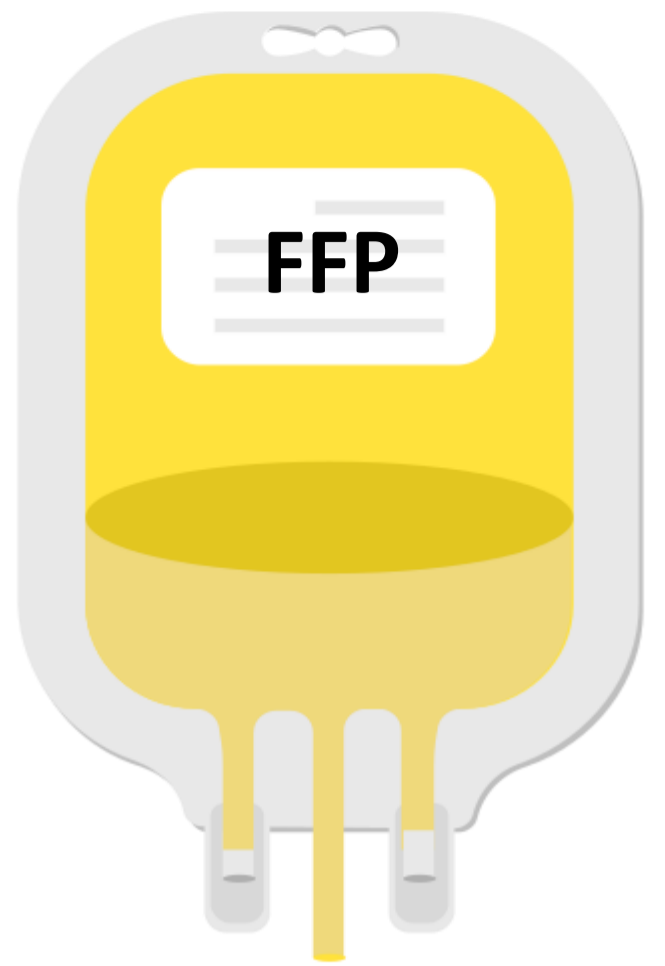
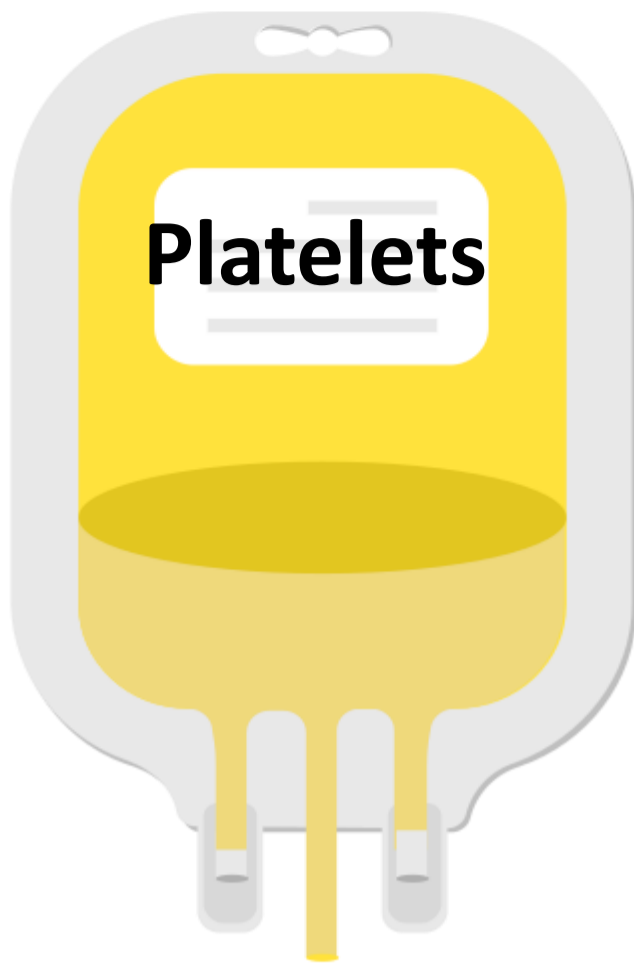
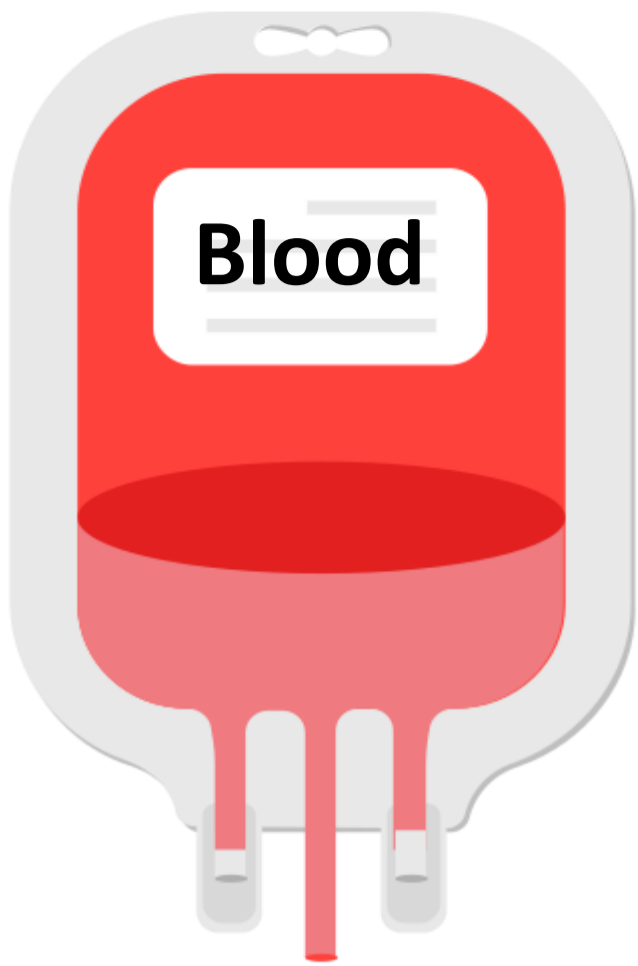


Urinalysis

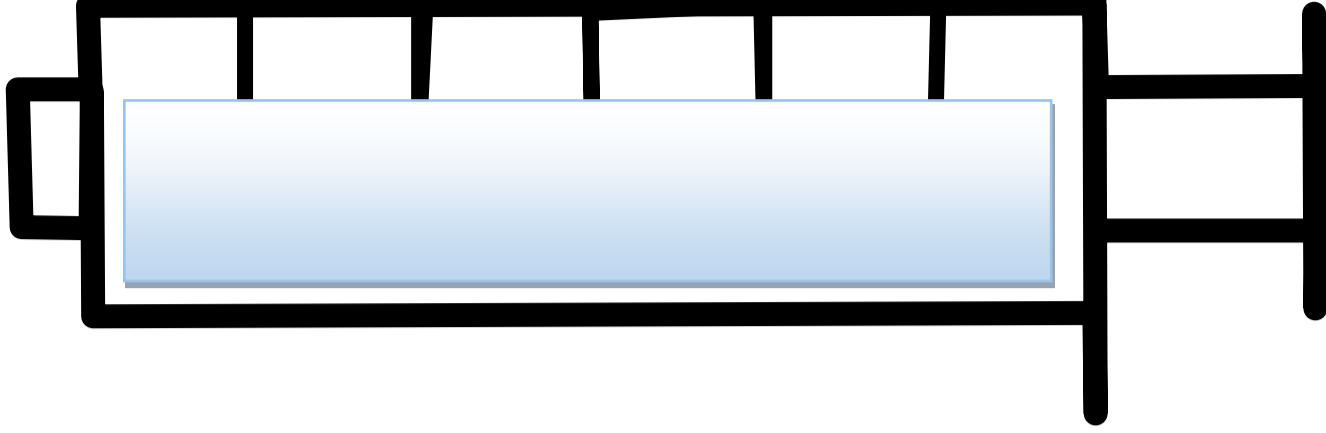


Central Venous Line





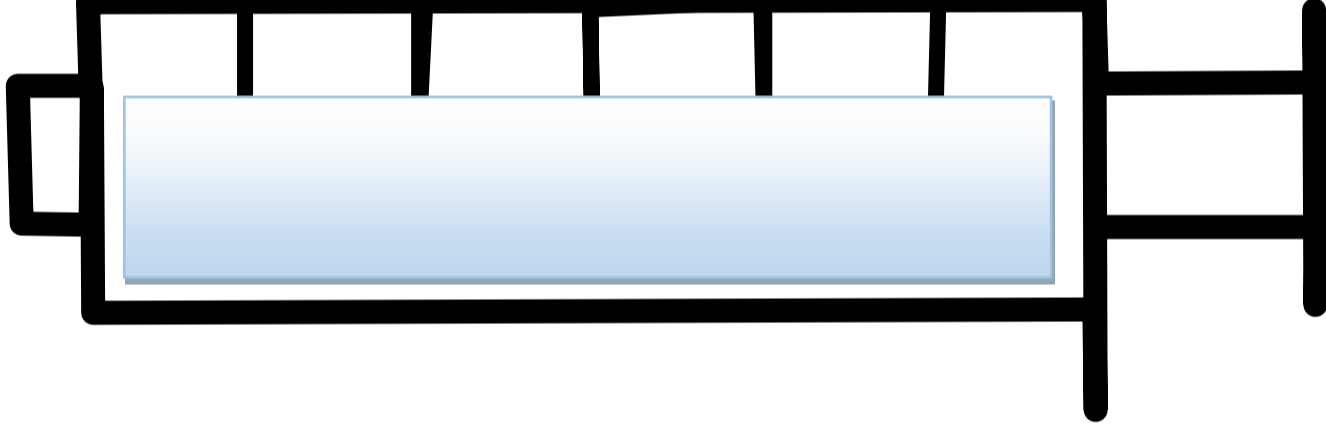
Infusion



Infusion



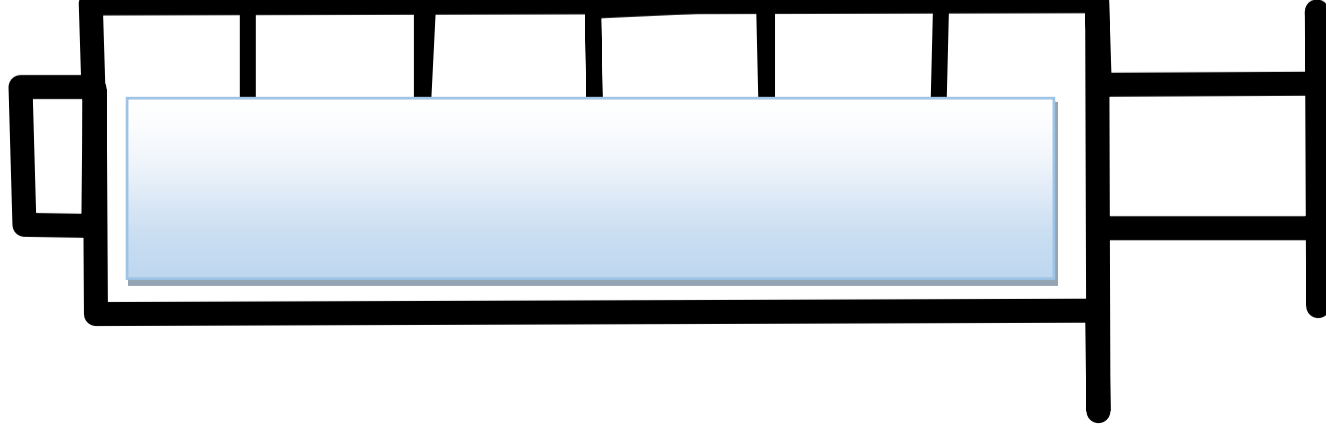
Infusion

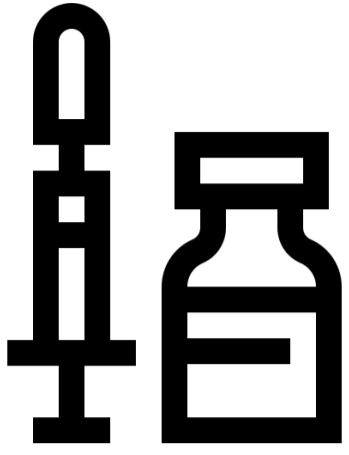


Infusion



Infusion

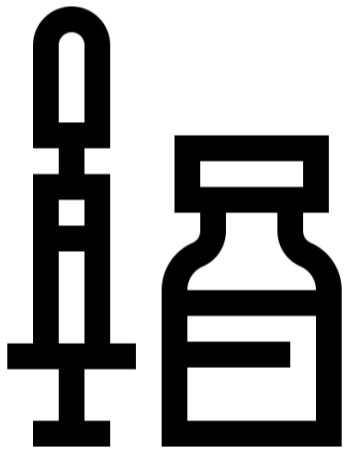




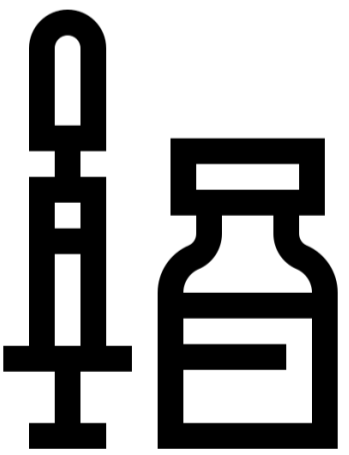
Medication



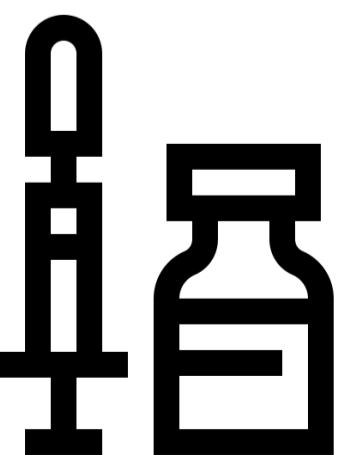
Medication



Medication



Medication



Medication



