

## Frequently asked questions (FAQ's): Infusion Pump

### Q1. How should I select a syringe pump?

A pump which has the following specifications should be chosen:

1. Reliable and electrically safe
2. Able to deliver the infusion accurately and consistently
3. Easy to set up and use
4. Able to lock the instructions
5. Portable and robust
6. Powered with both battery and mains
7. Can be used with syringes of all sizes
8. Equipped with override rapid infusion facility
9. Capable of alerting line occlusion and need to re-change syringe
10. Able to display rate of infusion and volume infused clear

### Q2. If one has a choice, which pump should one buy-drop based or syringe type, and why?

Syringe pump is a better choice. Drop based (volumetric pump) often requires special infusion sets which are costly and not available in the open market. Problem in drop based pump may arise at site of sensor or peristaltic pump. They also need special IV tubing of standard size which is 2-4 times more expensive than normal tubings. The syringe pumps, on the other hand, are not only extremely accurate but also have the convenience of not requiring specialized tubing. The most significant advance has been the introduction of a calculator mode within the pumps which calculates infusion rate, when the weight of the baby, dose of the drug and concentration has been fed.

### Q3. Is there any limit to infusion rate for syringe pump?

Ideally the pumps are for small volume continuous administration. It may not be cost effective, if one uses them for higher rates of volume infusion. Say infusing at a rate of 8 ml/hr one will have to keep on filling a syringe of 50 ml every 6 hourly and if the rate is much higher, more frequently. This exposes the baby to risk of nosocomial infections.

### Q4. Give some useful tips for using syringe pumps.

- Always run on mains whenever you can.
- Use only damp cloth soaked in soap-water (detergent) for cleansing the panel.
- Always inspect IV site periodically.
- Handle the clamp gently while pulling and snapping the syringe.

**Q5. What spares may be required for syringe pump?**

Battery may have to be replaced earlier, if not charged periodically or otherwise after 1-3 years of use.

**Q6. While using a syringe pump, should I connect special extension tubing or standard IV set tubing to the loaded syringe?**

The IV set tubing's are not tailored to serve as a connection between the syringe and the intravenous cannula placed in the baby. They are liable to leak at the syringe end due to the pressure generated by the pump. This prompts repeated manual tightening by nurses, increasing chances of infection due to contamination. The extension tubing is specifically meant for this purpose. It has groove system for tight connection with the syringe nozzle. Extension tubing is a more aseptic device and is therefore, the preferred choice.

**Q7. How frequently do the syringe and extension tubing need to be changed while using infusion pumps?**

The syringe and extension tubing must be changed every 24 hours. One should not compromise with this policy otherwise nosocomial infection rate may increase, necessitating use of expensive antibiotics for the baby.

**Q8. What are the advantages and disadvantages of syringe pumps over other infusion pump devices?**

The advantages are syringe pumps are cheaper than drip rate pumps, allow precise control of total volume infused, portable, suited for small volume infusions, low cost of disposables, pressure maintenance inspite of resistance and that air delivery is impossible. Disadvantages are that it is unsuitable for large volume and that comprehensive alarm system not usually provided.