

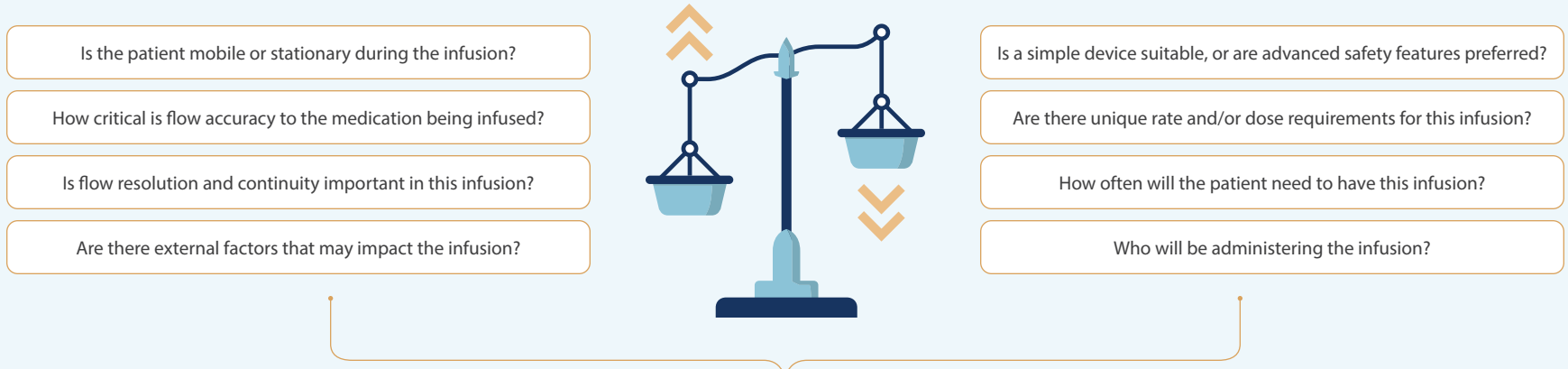
METHODS FOR ADMINISTERING INFUSION AT HOME

UNDERSTANDING THE DIFFERENCES BETWEEN EACH METHOD OF ADMINISTRATION

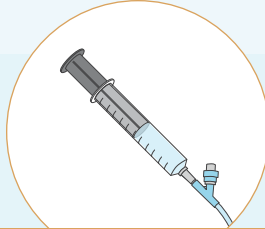
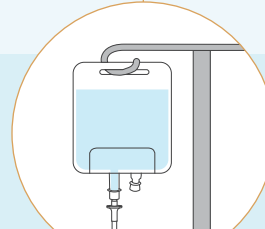
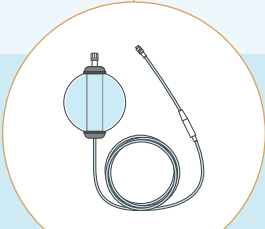
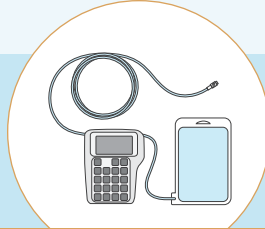
Clinical teams must take a variety of factors into consideration when determining which method of infusion administration should be used to treat a given patient. The type of infusion, frequency of infusion, rate / dose requirements, drug stability, patient safety, patient lifestyle, and even patient preference can impact which method is optimal for each infusion. **Understanding the often subtle differences between each method helps ensure an optimal solution is provided to the patient.**

FINDING THE RIGHT BALANCE

Taking a deeper look at the requirements unique to each specific infusion can help decision makers strike the right balance between the benefits and drawbacks associated with each method of administration.



Once all the factors of a given infusion have been considered, choosing the optimal method for administering an infusion becomes much easier.

			
SYRINGE	GRAVITY	ELASTOMERIC	AMBULATORY PERISTALTIC
<p>Using a disposable syringe to deliver medication is commonly called an 'IV push.' Medication is essentially "pushed" through the disposable syringe, into the patient's IV catheter, and into his/her bloodstream. This rapid delivery of a small volume of medication can be used in many different health care settings.</p> <p>BENEFITS</p> <ul style="list-style-type: none"> Minimal dilution for medication More accurate dosing as no medication is left in tubing Immediate effect on patient treatment Simple to use, least expensive option <p>CHALLENGES</p> <ul style="list-style-type: none"> Can only infuse small volumes at a time Increased risk of phlebitis with concentrated drugs Each drug requires specific administration dilution and push time, and has risks associated with immediate effect. Repeated access of the catheter increases risk of bloodstream infection 	<p>Gravity infusion uses the force of gravity to deliver the medication to the patient. A spike is inserted into a medication bag and the bag is hung from an IV pole. Some gravity sets have only a roller clamp to control the flow rate, while other sets may have a flow regulator which is designed to provide a more accurate flow rate.</p> <p>BENEFITS</p> <ul style="list-style-type: none"> Inexpensive, no maintenance costs Easy-to-use, no programming required Can be used in many different types of settings <p>CHALLENGES</p> <ul style="list-style-type: none"> Bag and fluid must be upright, no ambulatory use Accuracy is $\pm 10\%$, not to be used with critical medications No alarms to alert the user of errors 	<p>Elastomeric pumps use pressure from an elastic reservoir to drive medication into the patient's bloodstream. A pharmacist will select the correct elastomeric pump and fill the reservoir with the required volume of medication. Once attached to the patient, the clamp on the distal end of the tubing is released and medication delivery begins.</p> <p>BENEFITS</p> <ul style="list-style-type: none"> Simple to use, no programming or batteries required Lightweight and easily movable Designed for medications when flow accuracy is not important <p>CHALLENGES</p> <ul style="list-style-type: none"> Flow accuracy is typically $\pm 12\text{-}25\%$ No alarms to alert the user of errors Many external conditions such as head height, orientation, and temperature can impact pump performance 	<p>Ambulatory peristaltic (or electronic) pumps use electricity from a power source to operate. These pumps deliver fluids to the patient in a controlled manner. As the motor turns, the tubing is compressed and released, pushing a small bolus of fluid into the patient. These pumps are easily carried, operate in any orientation, and can be used in many different types of healthcare settings.</p> <p>BENEFITS</p> <ul style="list-style-type: none"> Alarms notify user of problems associated with the infusion. Flow accuracy is typically $\pm 2.5\text{ - }6\%$ Allows freedom of movement Can be used for many different types of fluids Minimizes the number of connections / disconnections <p>CHALLENGES</p> <ul style="list-style-type: none"> Requires a power source to operate Most costly option Potential for mis-programming

INFUSION BY THE NUMBERS

The following chart shows the relative usage rates among the various methods of administering infusion therapy **in the home care setting.***

* National Home Infusion Foundation's (NHIF) Infusion Industry Trends, 2020

