

PATIENT CARE PLAN FOR CARE OF TOTALLY IMPLANTED VENOUS ACCESS DEVICE (TIVAD)

Patient addressograph label / patient name

REASON FOR INSERTION...

DEVICE TYPE...

DATE OF INSERTION...

The Clinical Interventions Team at The Clatterbridge Cancer Centre 0151 556-5737 bleep4095. Mon –Fri 9-5 or alternatively the CCC Hotline on 0800 169 5555 which is available 24 hours a day 7 days a week.

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Troubleshooting guide:

Type of device	Risks	Actions	Variations / Comments	SIGN
<i>Totally implanted venous access device (port-a-cath)</i>	Infection	<ul style="list-style-type: none"> • Site clean and non tender. • Check at each visit if in community setting • Observe patient for signs of line infection (pyrexia/raised WCC) • If clinically unstable and patient has had rigors, take blood cultures from line immediately after independent venous cultures • All attempts to conserve the line should be taken prior to removing a TIVAD. • Administer antibiotics through the port where possible. • Ensure administration lines in place following local policy. • Replace any administration lines up to a max of 96hrs if constituted in ward environment. • Label infusion lines with date for renewal. • Change add-on devices at same time as administration sets or as soon as integrity is compromised. • Only if avoidable, assess medical condition prior to removal of line, needs to be performed in hospital setting where ports are placed. INR should be below 1.5, and platelets >80 • Send line tip for culture and sensitivity following removal only when line infection confirmed, swab pocket area and send for analysis 		

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	Air embolus	<ul style="list-style-type: none"> • Use Needle-free systems • Ensure air dispelled from medication/ flushes/infusates prior to administration. • Assess need for infusion pump 		
	Thrombus	<ul style="list-style-type: none"> • For suspected or confirmed thrombus commence treatment dose LMWH as soon as possible • Arrange a Doppler to confirm or exclude thrombus • TIVAD's should be used as required to conserve line and to provide reliable access particularly for those patients with restricted access • When a line is no longer required or has failed when a thrombus is diagnosed, treatment dose LMWH should be administered for between 3-5 days before removing the line to limit the risks of embolisation 		
	Occlusion of lumen.	<ul style="list-style-type: none"> • Maintain patency via 0.9% Sodium chloride for injection flushes as per guidelines, Pre & post drug/ infusion administration. Use heparinised saline as indicated by the interventions team • Ensure compatibility of drugs/infusates to avoid precipitation. • Ensure monthly flushes when not in use. Use needle-free system according to CINS guidelines using positive pressure flush when flushing and de accessing 		
	Bleeding from site / line itself.	<ul style="list-style-type: none"> • Observe for signs of bleeding from site. • Apply pressure above dressing • Ensure add on devices/taps securely fastened. 		

		<ul style="list-style-type: none"> • Ensure clotting studies in acceptable range prior to removal of line • Assess for infection if pocket site is bleeding or oozing. 		
	Line displacement/flipping	<ul style="list-style-type: none"> • Check notes to ensure CIT staff have documented line is in correct place and safe to use • If line disconnected for any reason then discard • Anchor lines to avoid accidental displacement of Huber needle using secure dressings. • If in doubt do not use line and ensure patient is aware of problems which may occur. 		
	Line in situ when no longer required.	Ensure prompt removal when line no longer required, for ongoing management if port is to remain in situ the line should be maintained monthly.		

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Visual Infusion Phlebitis (VIP) Scoring Tool for Intravenous Access Device (VIAD)

Exit site appears healthy	→	No sign of phlebitis Observe TIVAD pocket site	0
One of the following is evident: Slight pain near exit site Slight redness near exit site	→	Possible first signs of phlebitis Continue to observe site	1
Two of the following are evident: Pain at exit site Swelling Erythema	→	IMPORTANT Seek advice VIP score 3-5 Mon-Fri between 9am and 5pm ring the Clinical Interventions Team on 0151 556-5737 or bleep 4095 CCC Hotline on 0800 169 5555	2
All of the following are evident: Pain along the IV catheter Erythema Swelling	→		3
All of the following are evident and extensive: Pain along the path of the IV catheter Erythema Swelling Palpable venous cord	→		4
All of the following are evident and extensive: Pain along the path of the IV catheter Erythema Swelling Palpable venous cord Pyrexia	→		5
			Complete contact record with name and details of problem.

The Principles of Asepsis

Asepsis is defined as the absence of pathogenic (harmful) organisms.

The principles of asepsis/aseptic technique are:

- Reducing activity in the immediate vicinity of the area in which the procedure is to be performed
- Keeping the exposure of a susceptible site to a minimum
- Checking all sterile packs to be used for evidence of damage or moisture penetration
- Ensuring all fluids and materials to be used are in date
- Not re-using single use items
- Ensuring contaminated/non-sterile items are not placed in the sterile field
- Ensuring appropriate hand decontamination prior to the procedure
- Protecting uniform/clothing with a disposable apron
- Using sterile gloves.

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Steps to performing an aseptic dressing change

- Staff should be “bare below the elbow”
- Maintain a sterile field throughout the procedure
- Decontaminate hands by washing with liquid soap and warm water or by applying alcohol handrub, using the recommended technique.
- Put on disposable apron
- Decontaminate the trolley (or working surface to be used if trolley not available, e.g. in the patients home) with detergent and warm water or detergent wipes and dry.
- Assemble sterile procedure packs, e.g., dressing packs and equipment, check all items are in date and packaging is intact.
- Explain and discuss the procedure with the patient.
- Ensure patient is positioned both comfortably and so the area to be exposed is accessible without undue exposure.
- Open sterile procedure pack outer packaging, sliding the contents onto the top shelf of the trolley (or working surface).
- Open the sterile field by using the corners of the paper.
- Add any extra items without compromising the sterile field.

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- Lift the plastic waste disposal bag from the sterile field carefully by its open end and holding one edge of the opening end, place the other hand into bag, hence covering the hand with a sterile 'glove'. Using the sterile 'glove', arrange sterile items on the sterile field.
- Attach the bag to the trolley, below the top shelf or on a nearby surface if in a patients home. Decontaminate hands with alcohol handrub,
- Don non sterile gloves, remove old dressing and dispose of in disposal plastic bag. Decontaminate hands with alcohol handrub
- Put on sterile gloves ensuring hands do not contaminate outer surface of the glove.
- Perform the procedure as directed, using the correct dressings to suit the patients individual needs
- Ensure equipment is discarded if it becomes contaminated.
- Dispose of all used items, including soiled dressings, into the plastic waste disposal bag and seal.
- Discard disposal waste bag into clinical waste bag.
- Remove gloves and apron and dispose of in clinical waste
- Decontaminate hands with alcohol hand rub; then document all actions taken within the patients hand held records or electronically as required.

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Care and Management of Totally Implanted Venous Access Device (TIVAD) e.g. Port-a-Cath (TIVAD)

Note the Perouse Polyperf Huber needle is removed using positive pressure, consider 500units/5mls Heparinised saline if Huber needle cannot be removed using positive pressure if line is not being used for 4 weeks. Tip verification should be confirmed and documented in the medical notes prior to being used for chemotherapy if device placed by another facility

TIVAD access and routine flush

Action	Rationale
<p><u>Equipment Required</u> Dressing Pack containing sterile towel and gloves Gauze swabs x 3, 10ml syringes x 2 Chlorhexidine Gluconate 2% in 70% Isopropyl alcohol swab or Chlorhexidine Gluconate 2% in 70% Isopropyl alcohol impregnated applicator Sterile 10ml 0.9% pre filled Sodium Chloride for injection syringe x2 Blunt filter drawing up needle. Sharps container Small sterile fenestrated drape Alcohol hand rub Non coring needle (e.g. Huber or gripper needle) with needle free system ideally the Polyperf Perouse Huber needle Highly permeable dressing/securing dressing if receiving therapy in addition to flushing Plastic apron and pair of non sterile gloves</p> <p>AVOID CRYOGESIC SPRAY ON PORT POCKET</p>	<p></p> <p>Increases risks for port erosion</p>
<ul style="list-style-type: none"> ▪ Explain procedure to the patient. Ensure that valid consent is gained. ▪ Assess the need for topical local anaesthetic cream prior to assessing device ensuring that only the septum of the port is covered if being accessed prior to chemotherapy 	<p>Ensures patient compliance and reduces anxiety</p>

- Prior to patient contact decontaminate hands using soap and water and don an apron and non sterile gloves.
- Remove anaesthetic cream if used, locate septum of TIVAD by palpation, remove gloves
- Maintain aseptic technique at all times
- Ensure that the working area is as clean as possible.
- Ensure that all equipment is gathered before commencing the procedure and all packaging is intact and in date.
- Open sterile pack and prepare a sterile field
- Place pre filled saline syringes to the working area. Open Chlorhexidine impregnated applicator.
- Decontaminate hands
- Put on sterile gloves connect the blunt drawing up filter needle to the syringe Prime the non-coring needle device including its tubing with 0.9% Sodium Chloride and clamp extension tube, remove syringe..
- Place dressing towel as near as possible to TIVAD site
- Clean the skin covering the TIVAD with Chlorhexidine Gluconate 2% in 70% Isopropyl impregnated applicator and a wider area to allow for arm manipulation. Allow to dry
- Place small fenestrated drape, exposing the port site
- Remove needle cover from non-coring needle device. Insert the non-coring needle at 90-degree angle through the skin into the septum of the TIVAD until the needle comes into contact with the metal backing while firmly securing the device with fingers of non dominate gloved hand.
- Needle free device must be cleaned prior to reattaching syringe – thoroughly clean the hub of the needle free system with 2% Chlorhexidine impregnated wipe, rubbing the top of the needle free connector to the sides. This should be done several times over a period of 15 seconds. Allow to dry.
- Attach pre filled saline syringe , aspirate enough blood to blush the solution and inject the flush using a push pause action clamping as the last ml of the solution is instilled into the catheter. Remove the syringe and discard.
- If there is no flash back of blood or if there is swelling around the TIVAD site assess for

Reduce the risk of infection, to avoid contamination

To maintain asepsis

To prevent the device moving when inserting the Huber needle

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correct needle placement, attempt to rotate the Huber to ensure the bevel of the needle is in line with the port line, if correct placement is in doubt remove the needle and re-access. Note when the port is flushed with the Polyperf Huber needle there is a splash of the flush on correct removal of the Huber needle which confirms correct flushing technique. .

- If TIVAD was accessed for flushing purposes only, remove the needle and apply pressure over puncture site for a few minutes until bleeding stops.
- If the needle is to remain in situ ensure the needle is secured using appropriate highly permeable dressing.
- Remove dressing towel and discard. Remove gloves. Wash hands
- Clear away equipment used. Dispose of contaminated waste as per organisational policy
- Document care in patient's records electronically and within the hand held records if available.

Positive pressure flushing maintains the patency of the device by preventing the reflux of blood on removal of the Huber needle.

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Totally Implanted Venous Access Device (TIVAD) e.g. Port-a-Cath Blood sampling

Action	Rationale
<p>Equipment Required Dressing Pack containing sterile towel and gloves Gauze swabs x 3, 10ml syringes x 4, Chlorhexidine Gluconate 2% in 70% Isopropyl alcohol swab or Chlorhexidine Gluconate 2% in 70% Isopropyl alcohol impregnated applicator X2 10ml 0.9% Sodium Chloride for injection or pre filled syringe Alcohol hand rub Non coring needle (e.g. Huber or gripper needle) Perouse Polyperf with needle free system Plastic apron and non sterile gloves Semi-permeable transparent IV dressing and securing device if receiving therapy other than for flushing</p>	
<ul style="list-style-type: none"> ▪ Explain procedure to the patient. Ensure that valid consent is gained. ▪ Assess the need for anaesthetic cream. ▪ Prior contact with patient decontaminate hands using soap and water and don an apron and non sterile gloves ▪ Remove local anaesthetic cream if required and locate septum of TIVAD by palpation, remove gloves ▪ Maintain aseptic technique at all times ▪ Ensure that the working area is as clean as possible. ▪ Ensure that all equipment is gathered before commencing the procedure and all packaging is intact and in date. ▪ Open sterile pack and prepare a sterile field . 	<p>Ensures patient compliance and reduces anxiety</p> <p>Reduce the risk of infection, to avoid contamination</p> <p>To maintain asepsis</p>

- Place 0.9% sodium chloride (saline) on the working area.. Open chlorhexidine impregnated applicator.
- Decontaminate hands.
- Put on sterile gloves
- Prime the non-coring needle device including its tubing with saline and clamp extension tube, remove syringe.
- Decontaminate hands and put on new sterile gloves.
- Place dressing towel as near as possible to TIVAD site.
- Clean the skin covering the TIVAD with Chlorhexidine Gluconate 2% in 70% Isopropyl alcohol impregnated applicator and a wider area to allow for arm manipulation.Allow to dry
- Place small fenestrated drape around the port site
- Remove needle cover from non-coring needle device. Insert the non-coring needle at 90-degree angle through the skin into the septum of the TIVAD until the needle comes into contact with the metal backing while firmly securing the device with a gloved hand.
- Needle free device must be cleaned prior to reattaching syringe – thoroughly clean the hub of the needle free system with 2% Chlorhexidine impregnated wipe, rubbing the top of the needle free connector to the sides. This should be done several times over a period of 15 seconds. Allow to dry.
- Attach empty 10ml syringe unclamp and aspirate 5-10mls of blood. Clamp catheter and remove the syringe and discard the sample. If unable to obtain blood flush the catheter as directed below then discard. Using a second syringe, take amount of blood required for analysis then flush the port as directed below.
- Attach syringe with 0.9% Sodium Chloride (saline) and inject the flush using a push pause action camping as the last ml of the solution is instilled into the catheter. Remove the syringe and discard.
- If there is swelling around the TIVAD site assess for correct needle placement, remove the needle and re-access
- If TIVAD was accessed for maintenance flushing purposes only remove the needle during flushing with positive pressure and apply pressure over puncture site for a few minutes until bleeding stops.

To prevent the device moving when inserting Huber needle

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- If the needle is to remain in situ ensure the needle is secured using securing tapes and appropriate highly permeable dressing.
- Remove dressing towel and discard. Remove gloves. Wash hands
- Clear away equipment used. Dispose of contaminated waste as per organisational policy
- Document care in patient's records

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Totally Implanted Venous Access Device (TIVAD) e.g. Port-a-Cath Administration of antibiotics/infusion/additives

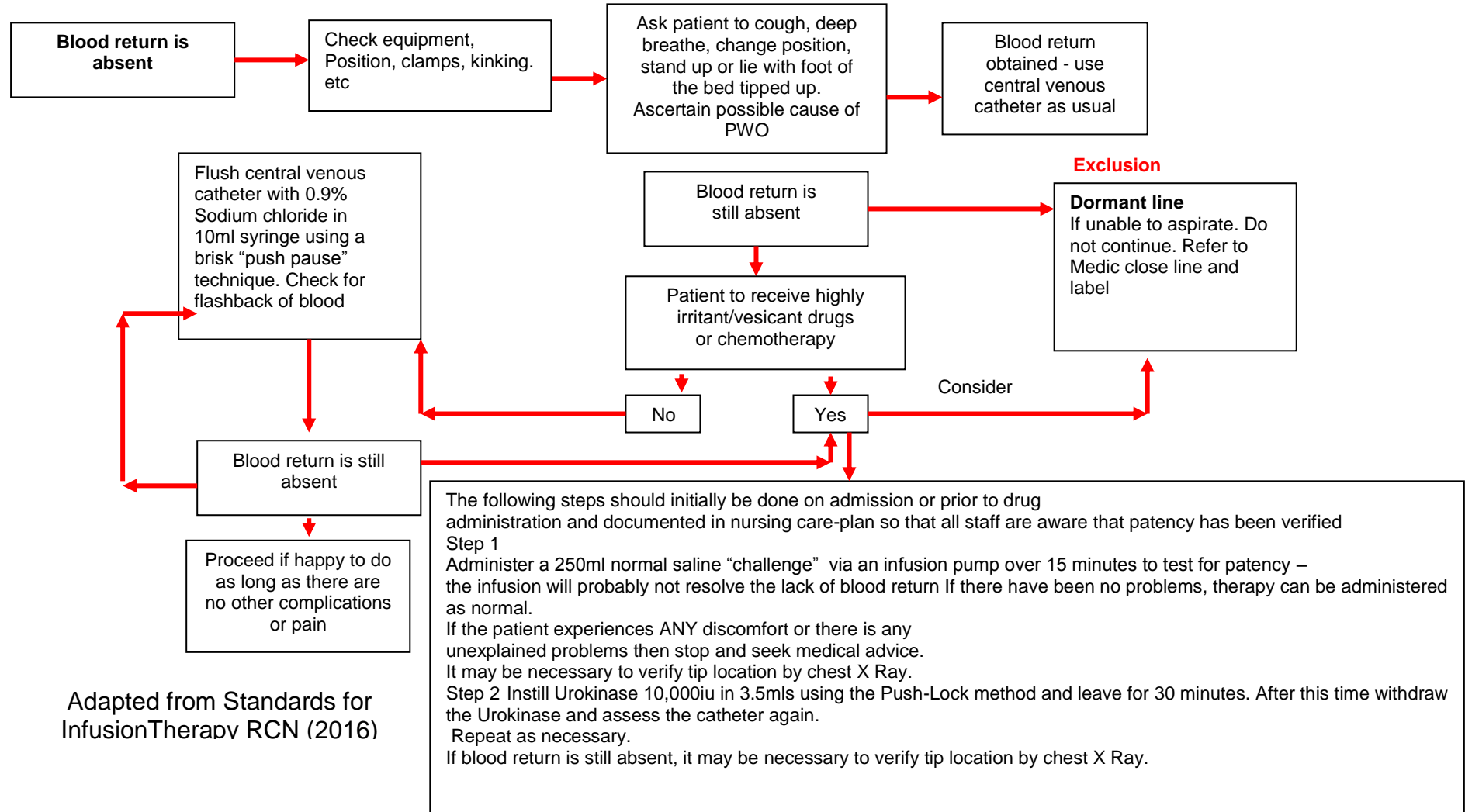
Action	Rationale
<p><u>Equipment Required</u> Dressing Pack containing sterile towel and gloves x2 Gauze swabs x 3, 10ml syringes x 2 Chlorhexidine Gluconate 2% in 70% Isopropyl alcohol swab or Chlorhexidine Gluconate 2% in 70% Isopropyl alcohol impregnated applicator 10ml 0.9% Sodium Chloride for injection Surgical tape, Alcohol hand rub Non coring needle (e.g. Huber or gripper needle) Perouse Polyperf with needle free system Highly permeable dressing and securing device if receiving therapy other than for flushing Plastic apron Antibiotics/additives/infusion as prescribed</p>	
<ul style="list-style-type: none"> ▪ Explain procedure to the patient. Ensure that valid consent is gained. ▪ Assess the need for local anaesthetic cream ensuring only to the septum is covered if patient is to receive chemotherapy. ▪ Prior to patient contact decontaminate hand using soap and water and don an apron. Maintain aseptic technique at all times ▪ Ensure that the working area is as clean as possible. ▪ Ensure that all equipment is gathered before commencing the procedure and all packaging is intact and in date. ▪ Open out sterile pack to create a sterile field ▪ Place 0.9% Sodium Chloride (saline) on the sterile field if required. Open Chlorhexidine impregnated applicator. ▪ Decontaminate hands ▪ Put on sterile gloves 	<p>Ensures patient compliance and reduces anxiety</p> <p>Reduce the risk of infection, to avoid contamination</p> <p>To maintain asepsis</p>

- Prime the non-coring needle device including its tubing with 0.9% Sodium Chloride and clamp extension tube, remove syringe.
- Locate septum of TIVAD by palpation, remove gloves.
- Decontaminate hands and put on new pair of sterile gloves.
- Place dressing towel as near as possible to TIVAD site
- Clean the skin covering the TIVAD with Chlorhexidine Gluconate 2% in 70% Isopropyl alcohol impregnated applicator and a wider area to allow for arm manipulation allow to dry
- Place a small fenestrated drape around the port site
- Remove needle cover from non-coring needle device. Insert the non-coring needle at 90-degree angle through the skin into the septum of the TIVAD until the needle comes into contact with the metal backing while firmly holding the port with your gloved hand
- Needle free device must be cleaned prior to reattaching syringe – thoroughly clean the hub of the needle free system with 2% Chlorhexidine impregnated wipe, rubbing the top of the needle free connector to the sides. This should be done several times over a period of 15 seconds. Allow to dry.
- Attach syringe with 0.9% Sodium Chloride, aspirate enough blood to colour the solution and inject the flush using a push pause action clamping as the last ml of the solution is instilled into the catheter. Remove the syringe and discard.
- If there is no flash back of blood or if there is swelling around the TIVAD site assess for correct needle placement, remove the needle and re-access.
- Following successful 0.9% Sodium Chloride for injection flush, administer antibiotics/infusion/additives as prescribed following local Trust Policy
- Flush the catheter again with the appropriate volume of 0.9% Sodium Chloride for injection, using a push/pause action, clamping as the last ml of the solution is instilled into the catheter
- If the needle is to remain in situ ensure the needle is secured using appropriate highly permeable dressing.
- Remove dressing towel and discard. Remove gloves. Wash hands
- Clear away equipment used. Dispose of contaminated waste as per organisational policy
- Document care in patient's records and electronically

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Algorithm persistent withdrawal occlusion

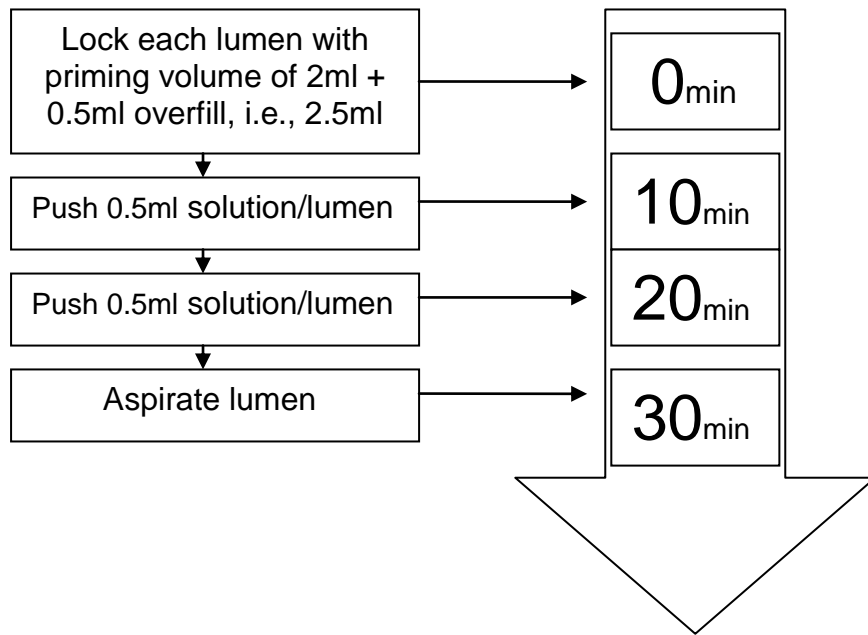
i.e. fluids can be infused freely by gravity but blood cannot be withdrawn from



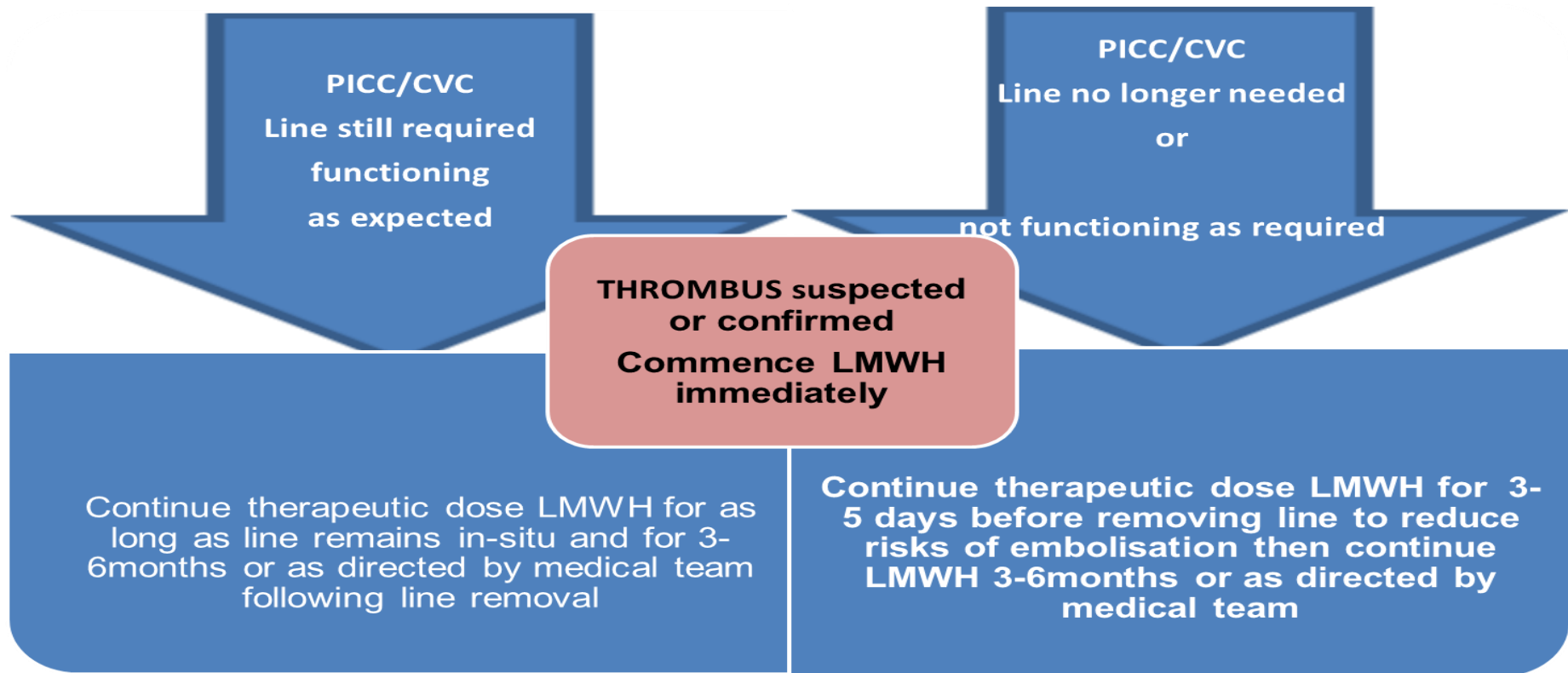
Adapted from Standards for Infusion Therapy RCN (2016)

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The Push–Lock Method: Reconstitute a 10,000IU vial of Urokinase using 3.5ml of 0.9% sodium chloride for each lumen.



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Algorithm for the management of Upper Extremity Deep Vein Thrombosis (UEDVT)

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