



NHSGGC CME T34/BODYGUARD T SYRINGE PUMP COMPETENCY FRAMEWORK for PALLIATIVE CARE in ADULTS HOSPICES

In compliance with professional guidelines, NMC: The Code (2018): professional standards of practice and behaviour for nurses, midwives and nursing associates. Registered Nurses will be responsible for ensuring that they are competent to operate the BD T34/Bodyguard T syringe pump in their clinical area.

HOSPICE STAFF

Registered nurses must attend Medicines Management Update Days as designated by their site and local Mandatory Training Policy and must also complete the GGC 100 CME T34 Calculations (CPD). To complete training, registered nurses are required to have the BD T34/Bodyguard T competency framework signed off by the designated assessor in their clinical area.

The LearnPro© module and the competency framework must be successfully completed every three years.



REGISTERED NURSE

Name		
Base		
Designation		
LearnPro Module	Date completed	
Medicines Management Update Day	Date completed	

ASSESSOR

Name		
Base		
Designation		

A. LEGISLATION

COMPETENCY Knowledge Area		OUTCOME/EXPECTATION	DATE	REGISTERED NURSE and ASSESSOR'S SIGNATURES
The registered nurse is able to locate and have a working knowledge of current NHSGGC Guidelines for the use of the T34 Ambulatory Syringe Pump by BD Medical for adults in palliative care.(2016)		Is able to refer to NHSGGC and local hospice guidelines and policies. Has clear understanding, demonstrated by verbally recounting updated and relevant sections of NHSGGC and local hospice policy on administering medication and use of syringe pumps including safeguarding with understanding of mental capacity and consent to ensure safe and effective person centered care.		
The registered nurse understands:				
1.	Local Hospice Policy for Record Keeping NMC: The Code (2018): (section 10) Record Keeping Guidance NMC: The Code (2018) professional standards of practice and behaviour for nurses, midwives and nursing associates. Caldicott Principles (2020)	Demonstrates appropriate record keeping and completion of syringe pump documentation. Demonstrates knowledge and understanding for personal, professional accountability and standards to be maintained. Awareness and understanding of Caldicott Principles and the importance of safe and clear documentation.		
2.	Local medicine management and incident reporting policy	Safe effective practice with access to incident reporting systems as evidenced from observation of two patient scenarios and verbal explanation of incident reporting process.		
3.	Health Protection Scotland National Infection Prevention and Control Manual (2012)	Awareness and understanding of policies and has previously undertaken the appropriate training on these subjects. This could include discussion around a critical incident focusing on one of the IP&C policies or practices.		



B. PROFESSIONALISM / ACCOUNTABILITY

COMPETENCY Knowledge Area	OUTCOME/EXPECTATION	DATE	REGISTERED NURSE and ASSESSOR'S SIGNATURES
Reflection on own practice and maintaining clinical skills.	Ability to recognise own learning needs and identify how to meet these as set out in annual appraisal or learning plan. Takes responsibility for completing mandatory training and maintaining current knowledge and skills regarding the BD T34/Bodyguard T syringe pump. (LearnPro module – drug calculations)		

C. COMMUNICATION, CLINICAL SKILLS AND MEDICATION KNOWLEDGE

COMPETENCY Knowledge Area		OUTCOME/EXPECTATION	DATE	REGISTERED NURSE and ASSESSOR'S SIGNATURES
1.	The registered nurse: Understands the influence of culture, ethnicity, race and faith on patient and family decision making.	Demonstrates consideration of individual factors which are taken into account when planning and delivering care interventions: Outline from practice one example of when either cultural, race or family decision making influenced the plan of care.		
2.	Communicates effectively with the patient/carer and family. Provides clear information regarding the use of the BD T34/Bodyguard T syringe pump, taking into account patient/carer and family concerns and reservations. Gains and records verbal consent from patient/carer or family prior to setting up syringe pump. Provides written guidance on the syringe pump.	Creates awareness by documentation or verbal discussion of the purpose of the BD T34/Bodyguard T syringe pump and medication with clear explanation to patient/carer and family, addressing concerns and reservations (risks and benefits). Verbal consent obtained to commence BD T34/Bodyguard T syringe pump. Understands the importance of providing written information to patient/carer and family regarding the BD T34/Bodyguard T syringe pump. Demonstrates awareness of where to access patient information leaflet.		
3.	Have knowledge and understanding of appropriate equipment required, e.g. appropriate cannula for s/c medications, correct syringe make and size, infusion line and needle free device and that these are appropriate and compatible with the BD T34/Bodyguard T syringe pump and the drugs prescribed.	As observed, demonstrates knowledge of NHSGGC BD T34 Policy and Guidance (2016) relating to the selection of equipment required to deliver a s/c infusion via the BD T34/Bodyguard T syringe pump, ensuring safe care.		

4.	Demonstrate required safety checks, ensuring the BD T34/Bodyguard T syringe pump is clean, visually intact, in working order and that it is asset tagged and has been serviced within the last year.	Demonstrates knowledge of safety checks, explaining causes of alarms and the required actions needed to safely set up the BD T34/Bodyguard T syringe pump. Ensure safe, harm free care.		
5.	Demonstrates that the current prescription is both legal and clinically appropriate on the Palliative Care Subcutaneous Infusion Prescription and Monitoring Chart / Medicine Kardex for Syringe Pumps and the 'as required' prescription sheet.	Demonstrates knowledge of safe prescribing especially pertaining to controlled drugs and correct completion of Palliative Care Subcutaneous Infusion Prescription and Monitoring Chart / Medicine Kardex for syringe pump and the 'as required' prescription sheet by observation of the assessor in clinical scenario – real or simulated. Confirms that dose conversions are appropriate and has recognised compatibilities of drugs and diluents. Advises colleagues, notes and reports any errors. Demonstrates knowledge of opioid conversions.		
6.	Sourcing knowledge for medication advice.	Demonstrates knowledge of available resources. Can state from whom and where to seek further advice.		
7.	Select and safely insert needle free cannula. On-going maintenance of site.	Demonstrates knowledge by observation in a clinical or simulated scenario setting of : <ul style="list-style-type: none"> • Selection of appropriate comfortable site • Correct insertion and securing of s/c needle free cannula • Frequency of replacing s/c cannula, infusion line and needle free device as per NHSGGC guidelines Is able to utilise clinical judgement and justify decision making when appropriate		

8.	<p>Demonstrate the knowledge, understanding and skill in the preparation, setting up, monitoring and closing down of the BD T34/Bodyguard T syringe pump.</p> <p>Demonstrates safe use of lock box for BD T34/Bodyguard T syringe pump.</p>	<p>Successfully demonstrate the procedure to set up a BD T34 syringe pump under supervision on three occasions in clinical practice.</p> <p>Will be able to provide evidence using the “Procedure to set up a BD T34 syringe pump” documentation signed off and dated by designated assessor for each occasion.</p>		
9.	<p>Disposal of sharps and clinical waste following local hospice policy.</p>	<p>Demonstrates knowledge of the policies and procedures relating to the safe handling and disposal of sharps and clinical waste.</p>		
10.	<p>Maintaining accurate documentation.</p>	<p>Evidences the correct documentation has been completed accurately.</p>		
11.	<p>Storage and decontamination of used equipment.</p>	<p>Able to demonstrate procedure for local area:</p> <ul style="list-style-type: none"> • Removing from stock • Returning to stock • Lending out BD T34/Bodyguard T syringe pump • Returning BD T34/Bodyguard T syringe pump to rightful owner • Sending BD T34/Bodyguard T syringe pump to medical physics <p>Decontamination before returning to stock</p>		

D. CLINICAL JUDGEMENT

COMPETENCY Knowledge Area		OUTCOME/EXPECTATION	DATE	REGISTERED NURSE and ASSESSOR'S SIGNATURES
The registered nurse has knowledge of symptom assessment and management and is able to:		Demonstrates the ability to assess and monitor symptoms and plan for appropriate interventions.		
1.	Monitor continuous subcutaneous infusion for any malfunction which may affect symptom management.	<p>Able to give rationale for carrying out the checks.</p> <p>Able to say how frequently these checks should be carried out.</p>		
2.	<p>Monitor for any change in patient's symptom control.</p> <p>Determine appropriate intervention and administer breakthrough medication as prescribed, when necessary.</p>	<p>Demonstrates knowledge of individual patient's symptoms and their management.</p> <p>Effective symptom management as per NHS Scotland Scottish Palliative Care Guidelines (2020) and can state from whom and where to seek further advice.</p>		
3.	Monitor for side effects of medication and undertake appropriate responsive action. This includes seeking advice from medical and multi-disciplinary colleagues.	<p>Demonstrates early recognition of potential adverse effects of medication administered via s/c infusion.</p> <p>Patient's safety and comfort maintained and symptom management optimised.</p>		

E. PROCEDURE TO SET UP A BD T34/BODYGUARD T SYRINGE PUMP

COMPETENCY LEVEL REACHED	DATE / COMMENT ASSESSOR'S SIGNATURE	DATE / COMMENT ASSESSOR'S SIGNATURE	DATE / COMMENT ASSESSOR'S SIGNATURE
Able to demonstrate procedure for identification of correct patient and gain verbal consent from the patient or, if necessary, from carer/family.			
Demonstrates ability to select correct equipment to undertake the procedure. Knowledge that 3 rd edition T34 with updated software/Bodyguard T pumps are used in a hospice In Patient Unit and only 2 nd edition T34 pumps are transferred with patients to community settings.			
Demonstrates how to load a battery.			
Demonstrates correct procedure for insertion of the appropriate cannula for s/c medications and needle free device and able to state frequency of when to renew.			
Dependent on prescription able to identify correct size, luer lok and brand of 20ml or 30ml syringe required and understand the importance of correct identification during the set up process.			
Demonstrates ability to select and use the BD T34 infusion line.			
Demonstrates knowledge of where to find advice on medicines compatibilities.			
Demonstrates ability to prepare medication safely and correctly, including the maximum volume of fluid for syringe using 20ml, 30ml or 50ml syringe.			
Demonstrates how to correctly complete and secure the pink medication label for syringe.			
Demonstrates knowledge and skills to load the syringe correctly.			



Demonstrates when and why a new infusion site may be required.			
--	--	--	--

PROCEDURE TO SET UP A BD T34/BODYGUARD T SYRINGE PUMP (cont)

COMPETENCY LEVEL REACHED	DATE / COMMENT ASSESSOR'S SIGNATURE	DATE / COMMENT ASSESSOR'S SIGNATURE	DATE / COMMENT ASSESSOR'S SIGNATURE
Demonstrates how to start the infusion.			
Demonstrates knowledge and understanding of syphonage.			
Demonstrates how to lock key pad and check battery status.			
Correct disposal of sharps.			

F. KNOWLEDGE OF COMPLICATIONS

COMPETENCY LEVEL REACHED	DATE / COMMENT ASSESSOR'S SIGNATURE	DATE / COMMENT ASSESSOR'S SIGNATURE	DATE / COMMENT ASSESSOR'S SIGNATURE
Demonstrates knowledge and understanding of the different alarms and how to correctly deal with them.			
Demonstrates knowledge and understanding of what to do should the pump appear to malfunction, e.g. running fast/slow.			
Demonstrates knowledge of what to do should an error alarm show or the device appears to malfunction.			



G. DOCUMENTATION

COMPETENCY LEVEL REACHED	DATE / COMMENT ASSESSOR'S SIGNATURE	DATE / COMMENT ASSESSOR'S SIGNATURE	DATE / COMMENT ASSESSOR'S SIGNATURE
Demonstrates knowledge of and understands the importance of correct documentation.			
Able to correctly complete the NHSGGC Palliative Care Subcutaneous Infusion Prescription and Monitoring Chart / Medicine Kardex			
Describe what procedures are in place for lending out and returning a BD T34/Bodyguard T syringe pump.			
Demonstrate knowledge of how to order further supplies of syringe pump sundries and documentation.			

Appendix 1

PREPARATION AND SETTING UP OF BD T34/BODYGUARD T SYRINGE PUMP – Additional Notes

1.	CHOICE OF CANNULA	<p>The Saf-T-Intima (single lumen) 22g cannula is the needle free s/c cannula of choice as:-</p> <ul style="list-style-type: none"> • Needle stick injury is reduced • Less likely to cause site reactions • Can remain in situ longer than other devices
2.	EQUIPMENT REQUIRED	<ul style="list-style-type: none"> • BD T34/Bodyguard T syringe pump designated for palliative care use and plastic lock box and key • Holster for mobile patient • 1 x lock box and key • 1 x [®]Duracell Plus / Panasonic Powerline 9v IEC 6LR61 alkaline battery • 1 x 20ml or 30ml luer lok Braun Syringe - depending on quantity of drug/s and diluent to be drawn up (19ml in 20ml syringe; 22ml for a 30ml syringe). In exceptional circumstances a 50ml luer lok syringe may be used under the guidance of a palliative care pharmacist. The maximum practical fill volume in a 50ml syringe is 34ml (ensure appropriate lockbox is used). • 1 x s/c needle free cannula and needle free device • 1 x infusion line with anti-siphon valve for use with T34/Bodyguard T ambulatory syringe pump for s/c infusions • Prescribed medication, including correct diluent • Transparent surgical dressing • Pink medication label • Syringes and needles to prepare medication • Disposable gloves • 1 x sharps box • Patient's medication prescription form / medicine kardex • NHSGGC Palliative Care Subcutaneous Infusion Prescription and Monitoring Chart for Syringe Pumps
3.	PROCEDURE FOR SETTING UP A BD T34 SYRINGE PUMP	<p>The registered nurse must check the entire process of setting up and commencing the continuous s/c infusion</p>
4.	SYRINGE PUMP	<p>The BD T34/Bodyguard T syringe pump will automatically calculate the rate of administration based on the size of syringe inserted.</p> <p>For information on drug combinations, compatibilities and calculating dosages please see Palliative Care Guidelines on StaffNet or contact the local Specialist Palliative Care Team or Pharmacy</p>
5.	OCCLUSIVE DRESSING	<p>A 10cm x 10cm occlusive dressing allows observation of the site and prevents cannula movement.</p>

PREPARATION AND SETTING UP OF BD T34 SYRINGE PUMP – Additional Notes (cont)

6.	SHARPS BOX	A sharps box should be readily available to dispose of sharps to reduce risk of injury.
7.	NEEDLES	Green needles are required to draw up medication.
8.	PRESCRIPTION CHART	A clearly written and signed prescription chart should be available. This should include the drug/s and diluent to be used. The BD T34/Bodyguard T syringe pump will automatically calculate the rate of infusion. In very rare circumstances a 50ml syringe may be used only with specialist advice.
9.	BATTERY	<ul style="list-style-type: none"> • A [®]Duracell Plus / Panasonic Powerline 9v IEC 6LR61 alkaline battery is recommended. • Batteries should always be readily available. • The average battery life for the 3rd edition (with updated software) T34/Bodyguard T pump is approximately up to 48hrs. • A new battery should be used at the start of an infusion. Always check the battery power before commencing the infusion • BD have advised that the 3rd edition (with updated software) T34/Bodyguard T pump should be stored with the recommended 9v battery insitu. • The average battery life for the 2nd edition T34 is approximately 3 days. The battery power should be checked daily and if less than 40% the battery should be changed.
10.	DRAWING UP THE MEDICATION	<ul style="list-style-type: none"> • Always wash your hands and wear gloves to draw up medications. • Prescribed medication (starting with the smallest volume) and diluent should be drawn up into the syringe of suitable size, as directed by the signed prescription. • The syringe should be gently inverted to ensure mixture of the contents. • Check the solution for cloudiness or crystallisation. If in any doubt regarding medication compatibility, please contact specialist palliative care pharmacy team. • Always attach a pink medication label to the syringe ensuring that it is still possible to read the amount of fluid in the syringe. Ensure the label contains patient identification, date, time, drugs in the syringe and is signed by those who have drawn up and checked the drugs. The label should be 'flagged' at the syringe tip end to ensure that it is clear of the barrel arm clamp sensor.
11.	PRIMING THE INFUSION LINE	<p>At the commencement of using the syringe pump, or when the infusion site is changed, the infusion line is primed by hand, using approximately 0.5ml of syringe contents before inserting the cannula or starting the infusion.</p> <p>NOTE: ANY CHANGE in medication doses or type requires a change of infusion line.</p>

Appendix 2

PROBLEM SOLVING AND TROUBLE SHOOTING WHEN USING A SYRINGE PUMP – Additional Notes

PROBLEM	POSSIBLE CAUSE	SOLUTION
The syringe pump will not start	<p>No battery present</p> <p>Battery incorrectly inserted</p> <p>Cap on the battery terminal</p> <p>Battery is depleted/very low</p> <p>Pump is faulty</p>	<p>Fit a battery</p> <p>Re-align battery terminals</p> <p>Remove the cap</p> <p>Fit a new battery</p> <p>Service is required</p>
Infusion ended early/late	<p>Drug incompatibility or site problems</p> <p>Disconnection of syringe, line or cannula</p> <p>Wrong syringe brand confirmed during setup or incorrect volume measured by pump</p> <p>Syringe pump placed > 75cm above infusion site. This can lead to syphonage if the syringe is not secured.</p> <p>Air is present in the syringe</p> <p>Faulty pump</p>	<p>Re-assess patient / consider need for PRN medications if infusion is running late</p> <p>Check placement of syringe, line and cannula</p> <p>Set up a new infusion</p> <p>If user error seek training (the syringe pump should be placed at the same level as, or lower than, the infusion site).</p> <p>Is the syringe barrel cracked</p> <p>Send the pump for servicing</p>
Infusion is running slow	<p>The syringe pump may have stopped</p> <p>S/c cannula site needs changing</p> <p>Pressure on / kinking of infusion line</p> <p>Disconnection of any part of the infusion – line, syringe, cannula</p> <p>Faulty pump</p>	<p>Check if pump stopped at any point. Assess patient / consider need for PRN medications if infusion is running slow</p> <p>Change s/c cannula and needle free device. Set up a new infusion line if required or if there is a change in prescribed medication.</p> <p>Check the line</p> <p>Reconnect infusion as per s/c guideline. If user error seek appropriate training.</p> <p>Return pump for servicing.</p>



PROBLEM SOLVING AND TROUBLE SHOOTING WHEN USING A SYRINGE PUMP – Additional Notes (cont)

PROBLEM	POSSIBLE CAUSE	SOLUTION
Cannula site requires frequent changes	Irritation from prescribed medication	Use a larger syringe and dilute more. Discuss with specialist palliative care team. Review medications
	Cannula insertion technique	If user error – seek appropriate training.
The pump has stopped before the syringe has emptied	Battery exhausted	Fit new battery, turn syringe pump on, confirm syringe size and brand and then resume infusion.
	Faulty syringe pump	Return pump for servicing.

OTHER PROBLEMS:

1. Precipitation

Line becomes cloudy or changes colour. Stop the infusion. Seek advice from pharmacy, specialist palliative care team or medical team.

Reasons may include: exposure to sunlight or direct heat, drug compatibility, or insufficient diluent. Assess patient, consider bolus dose medication.

2. The BD T34/Bodyguard T syringe pump alarms.

Alarm Conditions
(LED light turns red)

LCD DISPLAY	ALARM TYPE 2 nd edition T34	ALARM TYPE 3 rd edition (with updated software)/Bodyguard T	POSSIBLE CAUSE	ACTION
Occlusion or syringe empty	Audible and visual alarm	High priority alarm. Operational LED flashes red	Patient cannula/line blocked, kinked. Occlusion. Actuator has reached minimum travel position	Remove occlusion and restart pump. Flush/change cannula as per NHSGGC policy. End of programme - switch pump off.
Syringe displaced	Audible and visual alarm, Intermittent beep	High priority alarm. Operation LED flashes red.	Syringe has been removed or displaced	Check and confirm syringe seated correctly and resume infusion. Syringe flanges need to be in the vertical position at all times.
Pump paused too long	Audible and visual alarm, Intermittent beep	Low priority alarm. Operation LED is solid yellow (not flashing)	Pump left or no key presses detected for 2 minutes	Start infusion, continue programming or switch off
Near end alert only (infusion doesn't stop)	Audible and visual alarm, Intermittent beep Function of flow rate before end	Low priority alarm. LED is solid yellow. Fixed to 3mins before end of infusion	Near end of infusion	Prepare to change syringe or switch off
End program Press YES to confirm	Audible and visual alarm, Intermittent beep	High priority alarm. LED flashes red.	Infusion complete	Pump will alarm. Press Yes to confirm end of program and change syringe or switch off.
Low battery alert only (infusion doesn't stop)	Visual alarm	Low priority alarm. LED is solid yellow.	Battery is almost depleted (30 minutes left)	Prepare to change battery
End battery	Visual alarm	High priority alarm. LED flashes red.	Battery is depleted	Change battery



FINAL SIGN-OFF

This confirms that reflective discussion has taken place and (Name) _____ has been deemed competent / not competent to set up a BD T34/Bodyguard T syringe pump independently. This follows one theoretical and three observed practical sessions.

If not deemed competent, further education and support will be required and agreed by your Line Manager.

REGISTERED NURSE

NAME	
SIGNATURE	
DATE	

ASSESSOR

NAME	
SIGNATURE	
DATE	



Websites

NHSGGC Guidelines for the use of the T34 Ambulatory Syringe Pump by BD Medical for adults in palliative care (2016)

https://www.palliativecareggc.org.uk/wp-content/uploads/2013/10/T34Guideline_Oct2016.pdf

NMC The Code (2018) Professional standards of practice and behaviour for nurses, midwives and nursing associates.

<https://www.nmc.org.uk/globalassets/sitedocuments/nmc-publications/nmc-code.pdf>

Caldicott Principles (2020)

<https://www.gov.uk/government/publications/the-caldicott-principles>

NHSGGC Infection Prevention and Control (2012)

http://www.nhsggc.org.uk/content/default.asp?page=home_infectioncontrol

[accessed August 2021]

Faith and Belief Communities Manual (2010)

<http://www.staffnet.ggc.scot.nhs.uk/Info%20Centre/Documents/Complete%20Manual%20amended%20following%20proof%20from%20printer.pdf>

[Accessed July 2021]

Equalities and Health

http://www.legislation.gov.uk/ukpga/2010/15/pdfs/ukpga_20100015_en.pdf

[Accessed July 2021]

Scottish Palliative Care Guidelines (2020)

<https://www.palliativecareguidelines.scot.nhs.uk/>

PLEASE NOTE THAT THE ABOVE STAFFNET LINKS CAN ONLY BE ACCESSED VIA AN N3 CONNECTED PC.



Acknowledgements

The NHSGGC Primary Care BD T34 Syringe Pump Competency Framework Advisory Group would like to acknowledge assistance provided in developing this framework from the following organisations:

East Kent Hospitals University NHS Foundation Trust
Pilgrims Hospice, Canterbury
Berkshire Healthcare NHS Foundation Trust

NHSGGC Primary Care BD T34 Syringe Pump Competency Framework Advisory Group

Updated August 2021, version 2 January 2022
Elayne Harris, Macmillan Lead Pharmacist
GG&C Hospice Educators' Group

Date of Review: August 2024