



Subcutaneous medication for  
breakthrough symptoms in  
the last days of life:  
A guide for carers

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# Important information about this booklet

The content of this booklet is intended as a guide for a carer to assist in their understanding of as-needed subcutaneous medications commonly given to people being cared for at home in the last days of life.

This information booklet is one part of the CARIAD package for carers. The booklet is based on the study materials of a Bangor University research study, which was adapted from the Brisbane South Palliative Care Collaborative Caring Safely at Home booklet entitled 'Subcutaneous Medications and Palliative Care: A guide for caregivers'. It is only to be used in conjunction with thorough training from local healthcare teams.

While great care was taken to ensure the accuracy of the material contained in the booklet, the booklet is a general guide only to appropriate practice, to be followed subject to the healthcare team's judgment and the carer's preference in each individual case.

## Copyright statements

This package is based on preliminary findings from the NIHR HTA funded study 15/10/37. The HTA study materials were based on the Australian training package and were adapted for UK use.

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# Introduction

Palliative care is care provided for people of all ages who have a life limiting illness, with little or no prospect of cure, when the primary treatment goal is improved quality of life. During the palliative phase, care is focussed on promoting the person's comfort by keeping symptoms under control as much as possible with medication, and trying to fulfil wishes the person may have expressed about their death. For many people, this includes being cared for and dying at home. The likelihood of a person being able to remain at home during this phase is often dependent on the availability of carers beyond the healthcare team – usually a close family member or friend. These carers often take on the responsibility of managing the person's medications, as well as helping with selfcare.

As people get weaker in the last weeks or days of life, they usually cannot swallow and are no longer able to take medications by mouth. In the UK, when this happens, it is standard practice for medications to be given under the skin to relieve symptoms. This is sometimes called **subcutaneous medication** (subcutaneous means “under the skin”) and can be done using a needle or a **cannula**. A cannula is a small plastic tube which is placed under the skin. Unlike needles, which are used separately each time a medication is needed, a cannula can be kept in for several days. If a person is on regular medications, a syringe driver or pump is often connected to the cannula to give medications continuously throughout the day and night to keep symptoms controlled.

The person may still experience some symptoms even when this is in place – these are called **‘breakthrough’** symptoms they may require extra **as-needed** doses of medication to be given. The most common breakthrough symptoms are pain, nausea/vomiting, anxiety/agitation/restlessness, noisy ‘rattly’ breathing and breathlessness. When the person experiences breakthrough symptoms, the carer is usually advised to call the healthcare team, often a district nurse. They will visit and give the patient as-needed subcutaneous medication (medicine under the skin using a needle or a cannula that is in place). But, it can take a long time, often much more than an hour, for the healthcare team to arrive and give the as-needed medication. This wait can be distressing for patient and carer and the symptom can worsen during this time. Carers tell us that this makes them feel powerless to help the person they are caring for.

You have been given this booklet as one part of an education package that has been developed to train carers like yourself to be able to give these as-needed medications, using a cannula that is already in place. This means you do not need to use needles to give the medications – they are often called **no-needle injections**.

Using this education package, you will be trained how to recognise breakthrough symptoms described above. You will learn how to prepare and give no-needle injections. You will learn how to see if they work to relieve the symptom, and what to do next if they do not. This booklet forms part of the training that the healthcare team will give you, and explains common symptoms in the last days of someone's life and how this could be treated with subcutaneous medication.

The person you are caring for will receive all their regular healthcare visits and medication as normal. The only thing that will change is that you will be trained to give as-needed medication for breakthrough symptoms. **It is important to know that it is completely legal for carers to give symptom-relieving medications to dying patients as long as they are supported to do so. Even after you have been trained to give injections, you do not have to give it if you do not feel confident to do so.** If you are in doubt if an injection is needed, you can, at any time, call the healthcare team looking after the person you are caring for at home.

Managing symptoms in the last days of life can sometimes be challenging. However, understanding the medications that are commonly used, will help you to identify the correct medication to give to control a particular symptom. To manage symptoms successfully it is essential that you talk with the healthcare team and let them know when symptoms are becoming bothersome or difficult to manage.

If you need any more detail on any aspect of caring for someone dying at home, please talk to the healthcare team supporting you at home.

**The booklet is divided into four main sections:**

- 1. Frequently Asked Questions About Symptom Management and Subcutaneous Injections**
- 2. Pain Management**
- 3. Information About Other Common Symptoms**
- 4. Problems you might encounter**

# 1. FAQ – Frequently Asked Questions About Symptom Management and Subcutaneous Injections

## Symptom Management

### **a. What is meant by the term ‘symptom management’ in the last days of life?**

Symptom management in the last days of life refers to care given to treat unwanted experiences, such as pain or nausea, sometimes associated with the dying phase. Symptom management includes many different types of care that can range from simple things such as changes in position, to needing extra medications. This booklet only considers the use of as-needed subcutaneous injections for symptom management of five common symptoms in dying people: pain, nausea/vomiting, anxiety/agitation/restlessness, noisy ‘rattly’ breathing and breathlessness.

### **b. Why is it important to keep symptoms well managed?**

Symptoms can be distressing for people and decrease their quality of life. This is why we try to keep them well managed. People who have expressed a wish to be cared for and die at home may be less likely to have unplanned admissions to hospital or hospice if their symptoms are well managed.

If pain or other symptoms that cause discomfort are allowed to build up, they can become much harder to control than if steps are taken to manage them at the first sign of their appearance – this is what good symptom management is all about..

### **c. What is meant by ‘as-needed,’ ‘breakthrough’ or ‘PRN’ medication?**

Symptoms are often controlled with medications given at regular times, or continuously through a syringe pump, throughout the day and night. Sometimes, however, the person may experience some symptoms even when this is in place – these are called ‘breakthrough’ symptoms and the most common ones are pain, nausea/vomiting, anxiety/agitation/restlessness, noisy ‘rattly’ breathing and breathlessness.

Dealing with the breakthrough symptom may require giving an extra dose of medication, often called ‘as-needed,’ ‘breakthrough’ or ‘PRN’ medication. Such medications will be prescribed by the healthcare team.

Symptoms in people in the last days of their life can appear very quickly. We prepare for this by reviewing the person regularly to see what changes in medications or

other treatment may be needed. Sometimes we can predict what may occur (like the common symptoms) and have plans in place in case it actually does occur. This is why 'as-needed,' 'breakthrough' or 'PRN' medications are prescribed in advance. This is known as anticipatory prescribing and sometimes called 'just in case' medications. This medication should be given at the first sign of an unwanted symptom, before it has a chance to build up, remembering that medications can take up to 20 minutes to take effect.

#### **d. How will I know which medication to give?**

If a person cared for at home is on any continuous or as-needed subcutaneous medication, this will be clearly prescribed on a medication chart which is left in the house. Usually, only members of the healthcare team will record on this, for example when a syringe driver or pump is reloaded or they have given any as-needed injections.

For the CARiAD package, the healthcare team will still prescribe on this medication chart and leave it in the house. Then, the nurse training you will give you further information that will help you understand more detail about the medication(s). This will help you to be able to give the best medication at the right time for a particular symptom. The nurse will write these detailed instructions in the Carer Diary so that you can check this every time you think an injection is needed. This will remind you exactly what medications to give, how much to give and how often you can give them.

The nurse will show you how to complete the details of any medication you have given in your Carer Diary. A member of the visiting healthcare team will check the Carer Diary with you at every visit and carry over parts of the information to complete the medication chart: they will write the medication details and time given, and note that you have given it.

All carers who have been trained to give as-needed subcutaneous medications to the person they are caring for will need to complete the Carer Diary. Even if you decide you do not want to give the injection yourself, there is space to record what happens each time the person you are caring for experiences breakthrough symptoms. Some carers may feel that they want to complete both the Carer Diary page and enter the additional information into the formal medication chart (usually completed by the healthcare team). Your nurse will discuss this with you and agree the best plan for you. Even if you decide you do not want to give the as-needed medication yourself you should still complete the Carer Diary and indicate that you called the healthcare team to do this.

#### **e. How long do I have to wait for the medication to work?**

You should check the patient after 30 minutes to see whether the symptom is getting better after giving an injection (and record this in the Carer Diary), but it may take up



to one hour to be sure if it has helped or not. If, in that hour, the symptom for which you have given the injection is getting worse, not getting any better at all, or if you are worried for any reason, call your healthcare team straight away. It is likely that a doctor or nurse will want to come and visit the person you are caring for to see why the medication is not working.

**f. How often can I give as-needed subcutaneous medications for breakthrough symptoms?**

Most of the medications that you will be shown how to use for breakthrough symptoms should not be given more than once every four hours.

The as-needed medication for pain can sometimes be used slightly differently. If the first no-needle injection does not reduce the person's pain enough within the first hour after it has been given, you may be allowed to give the next dose early instead of having to wait for four hours to pass. This might mean that you are given permission to give an extra dose of as-needed medication for pain one hour after the previous dose if this has not worked. If you need to give this extra dose, you should inform your healthcare team straight away. The doctor or nurse may wish to come to visit the person you are caring for.

Being allowed to give an extra dose after one hour may not be the best course of action for everyone so the decision will be made by your healthcare team who will discuss this with you.

**g. Can I give medication for every symptom that the person I am caring for experiences?**

No, you will not be able to give no-needle injections for every possible symptom that someone might experience in the last days of life. There are several reasons for this. Firstly, the CARIAD package is focussing on five common symptoms that may happen in the last days of life. These are pain, nausea/vomiting, anxiety/agitation/restlessness, noisy 'rattly' breathing and breathlessness. Because they are very common symptoms we already know a lot about how these symptoms might look in patients and which drugs are the best to use.

We know that some less common symptoms may also need medication via subcutaneous injection, for example seizures. If the person you are caring for experiences these symptoms, you will be asked to call the healthcare team to give an injection.

The second reason that you will not be able to give injections for all symptoms is that not all unwanted experiences or symptoms in the last days of life are best dealt with giving an injection. An example of this is itching where the use of skin creams would be used instead of a no-needle injection.

It is also important to remember that you can only give medications for breakthrough symptoms whilst the person you are caring for is receiving care in their own home (or usual place of residence). If the person is admitted to an inpatient unit, including a hospital or hospice, the medical team will be responsible for their medications and you should not give any medications yourself.

#### **h. Can I give unlimited number of doses of medication?**

No, you cannot give more than three (3) doses of medication for the same symptom in any 24 hour period. The reason for this is that, if someone needs frequent as-needed medication, the symptom might not be controlled well enough and a doctor or nurse should see the patient. They can then assess the person and the regular medication they are receiving to see if this needs to be changed to help control the symptoms. After you have given three doses of medication for the same symptom in less than 24 hours, you will need to let your healthcare team know straight away so that they can come to review the person you are caring for. You should not wait until the next dose is needed.

#### **i. What if I give too much medication?**

If you think you have made an error with the amount of drug you have given or you have given too many doses, you should contact your healthcare team straight away and make them aware of this. If you think you have given the correct doses but the person you are caring for is having unusual symptoms or you are concerned about their response to a no-needle injection, you should contact the healthcare team.

#### **j. What are side effects of medication and are they avoidable? What do I do if they happen?**

Medications are given to help control symptoms and keep the person you are caring for as comfortable as possible, but they may also cause unwanted effects (also known as adverse or side effects). Your healthcare team will always consider the symptoms a person is experiencing and weigh up the benefit of a medication compared to the risk of side effects. The goal is to get the right dose of a medication to treat the symptoms, whilst keeping the side effects as low as possible. This is why it is important to closely follow the instructions given by the healthcare team on how much medication to give, as it may be different for different people. If side effects do happen, you should let the healthcare team know as soon as possible. Side effects vary for different medications, but can include experiences such as drowsiness, muddled thinking or constipation.

It is important to know what the possible side effects of the medications used by a person might be. If you understand them, you can manage the side effects if they happen. You will find more detail on side effects of commonly used medication later on in this booklet. If the person you are caring for is prescribed a medication for you to give by no-needle injection that is not listed in this booklet, the nurse who are training you will add details about any of its potential side effects to your Carer Diary.

**k. Can the medications I am giving cause serious harm to the person I am looking after or make them die more quickly?**

We do not expect any problems with the drugs that will be used because they are the same as those used in standard practice and are generally well-tolerated. The drugs used are very commonly given to seriously ill patients to control symptoms and a nurse will give you very detailed training on how to give the no-needle injections.

There may come a time when you are giving the injections when the person you are caring for is very ill and will soon die. This might mean that the time when they die is near to when you have last given them medication. It is very important for you to know that these two things are not related and the medication has not ended their life. The nurse training you to give injections will discuss any worries or concerns you may have about this.

## Subcutaneous Cannula

### a. What is a subcutaneous cannula and why is it used?

People who are seriously ill and nearing the end of their life may find it difficult to take medications by mouth – either because they are experiencing nausea or vomiting or because they are becoming too weak to swallow. In the UK, when this happens, it is usual practice for a cannula to be put in – this is a small plastic tube placed under the skin designed to carry medication into a person's body. The cannula is sometimes called a 'Saf-T-Intima' by nurses.

One end, inserted by a registered nurse, sits just under the person's skin. The other end divides into two parts and is shaped like a Y. One part of the Y-arm can be connected to a syringe driver or pump; the other can be used for subcutaneous injections (See figure 1).

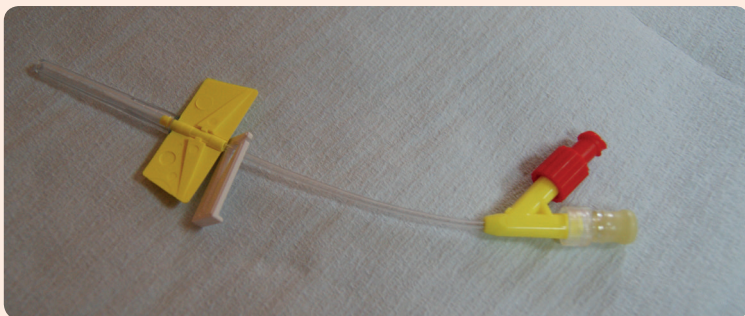


Fig. 1 Saf-T-Intima cannula

It is often best to give as-needed medication through a separate subcutaneous cannula rather than to use the other arm of the cannula connected to a syringe driver or pump. The nurse will usually insert this second cannula in a different part of the body.

The healthcare team will check the cannula(s) most days and change it on a regular basis.

### b. What is a subcutaneous injection and why is it used?

Subcutaneous means 'just under the skin'. So, a subcutaneous injection means giving an injection just under the skin. There is a good blood supply under the skin and this carries the drug into the rest of the body. Subcutaneous injections are normally less painful than an injection into the muscle and are easier to give than an intravenous (in the vein) or intramuscular (in the muscle) injection. When a cannula is in place, subcutaneous medication can be given without the use of needles.

The subcutaneous method is a safe and effective way of giving medications, especially when a person is experiencing swallowing problems or has nausea and/or vomiting..

**c. Where is a subcutaneous cannula inserted?**

The cannula can be inserted into the person's abdomen (tummy) or chest, upper thigh or upper arm. If the person is confused or muddled and is likely to remove the cannula, it can be placed in the upper back.

The nurse will secure the cannula to the person's body (see figure 2) using clear film, so that you can see the insertion site. This allows you and the healthcare team to check the site regularly.

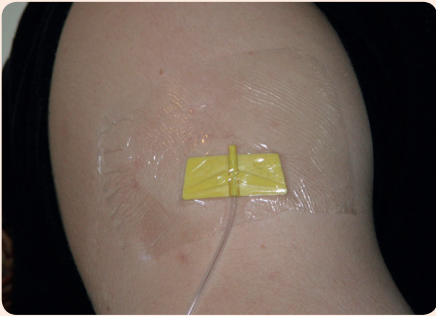


Fig. 2 Saf-T-Intima cannula inserted in the top of the arm

**d. How do I care for the cannula?**

Caring for a cannula is quite easy. You will need to check the insertion site every time you give a no-needle injection using the cannula. If you notice that the cannula site is red, swollen, leaking or smelly, contact your healthcare team as it is likely the cannula will need to be changed (see figure 3).



Fig 3. Redness at the cannula site

**e. How will I know if the cannula is not working? What should I do if this happens?**

It is normal for a small lump to appear at the insertion site immediately after the injection has been given. This is the medication sitting in the tissue just under the skin. The small lump will disappear as the medication is absorbed into the bloodstream. If it does not, contact your healthcare team.

If it is hard to inject medications or if the medications leak out onto the skin when you inject, then contact your healthcare team as this means the cannula is no longer working. Leave the cannula in place for them to remove. In the meantime, if there is a second cannula, this can be used until the other cannula is changed.

## Subcutaneous Injections

Commonly used palliative care medications can either be given as a continuous infusion over 24 hours or as-needed using subcutaneous injections.

### a. What is meant by 'continuous medication(s)'?

Continuous medication(s) refers to the giving of medications that enter the bloodstream slowly and continuously throughout the day. Continuous medication(s) are usually given via a syringe driver or pump, which is a portable, battery-operated machine (See figure 4).



Fig. 4 Syringe pump mechanism for continuous medications (no syringe attached)

The syringe driver or pump may be attached to a subcutaneous cannula. Once the cannula has been inserted the person should not experience any discomfort from it.

A nurse will reload the syringe driver or pump regularly and may sometimes change the combination of drugs or the dose of medications in the syringe, after discussion with the prescriber. This may need to occur if the person is experiencing ongoing and increasingly unpleasant symptoms, has required an increase in the number of breakthrough medications daily or has been generally unsettled. It sometimes takes a few days to get the right dose(s) and combination of medication(s).

### b. What is meant by 'as-needed' medication(s)?

"As-needed medication(s)" refers to medication given occasionally through the day. Intermittent medication(s) can be given by subcutaneous injection either for one-off symptom management or for more regular breakthrough symptom management. So breakthrough medication is a type of intermittent medication, and, as mentioned earlier is used to control a symptom that has re-occurred in spite of regular medication.

### c. How do I give as-needed no-needle injections into a subcutaneous cannula?

There are a number of options for how to give the no-needle injections. Which

technique you need to use will depend on the as-needed medication that you are giving and the type of container the medication is stored in.

Your nurse will give you personalised training so that you know how to give the as needed no-needle injections that have been prescribed for the person you are caring for. There are step-by-step guides which give detailed information for each of these different techniques and you should refer to these each time you give a no-needle injection.

The nurse will show you how to prepare the no-needle injection by drawing up the medication. The carer diary will tell you how much liquid (the volume) you will need to draw up into the syringe for the correct dose. This may be different for different medications so check the personalised information in your carer diary carefully.

There are two options available when giving an injection into a subcutaneous cannula; your nurse will explain which one you will use.

### Option 1

Firstly, remove the blunt drawing up needle from the syringe. Then give the injection by connecting the syringe to the port on the Y-arm using a twisting or screwing motion until the syringe is securely attached, as shown in figure 5. Then slowly push the plunger to give the medication. Once the medication has been given you can remove the syringe by unscrewing the syringe in the opposite direction.



Fig. 5 Injecting using the no-needle technique

### Option 2

The other side of the Y-arm, which has a white rim or similar (your nurse will advise you), is topped with a special membrane with a slit in it so you can choose to inject the medication straight into this opening without removing the cap using a short blunt needle (see figure 6). Then slowly push the plunger to give the medication.





Fig. 6 Injecting using the blunt needle technique

For further instructions contact your healthcare team or refer to the step-by-step guides in your training pack.

## 2. Pain Management

### Overview of pain management

Pain is often the most feared symptom in the last days of life. Pain management can be simple or complex, according to its cause. Do not ignore pain, as that may only make it harder to manage. Some types of pain are more difficult to manage than others. That is why it is important to talk with the healthcare team, letting them know whether the medication has worked well or not.

When managing pain it helps to have a record about the type of pain that the person experiences (for example what words the person uses to describe it), and when it occurs, and then discuss this with the healthcare team when they next visit. The healthcare team will check the Carer Diary you will be keeping that records the medications you have given since their last visit. This will help them to decide if medications need to be changed.

There are many different types of medications that can be used to manage pain, but we will only concentrate on the medication that are commonly given as subcutaneous no-needle injections for people in the last days of life. Choosing the right drug to control pain can sometimes be difficult. Your healthcare team will consider all options and choose the medication that is best suited to the person's individual pain.

There are many types of medications, so there is usually something that will keep the person you are caring for comfortable. Strong pain medications such as **opioids** are often used to manage pain.

Table 1 outlines some of the commonly used opioids given subcutaneously, that help with pain control.

The healthcare team will make every effort to keep the person as comfortable as possible, though it may take some adjustment to get the medication right.

All strong pain medications have side effects that can usually be managed. Nausea/vomiting, drowsiness or poor concentration and itchy skin typically only lasts for a short while after the person first starts to use strong pain medications. Constipation can be managed by taking laxatives regularly as long as the person you are caring for is still able to take medication by mouth.

Dry mouth is common too and can be a side effect of several other medications. If the person is still able to swallow safely, offer sips of water. Otherwise, try to increase their comfort by moistening the mouth (using a damp sponge) or applying lip salve.

Less common side effects, which, if experienced should be reported immediately to the person's healthcare team include:

- Decreased breathing rate;
- Jerking of limbs;
- Confusion.

## Common myths and misconceptions about strong pain medications

Addiction can occur when a person takes strong pain medications like morphine for recreational purposes. There is a misconception that when people have pain and need to use opioids that they too, can become addicted. This concern can lead to underusage of strong pain medications and can lead to loss of pain control. Concern about physical or psychological dependence is never a reason to delay giving an opioid if it is required.

It is true that a person's tolerance to a particular drug may increase and more medication may be needed as the illness progresses. This is quite normal but if you are concerned you should speak to the healthcare team of the person you are caring for. The healthcare team may alter the dose from time to time to ensure that the person remains as comfortable as possible.

## Commonly Used Opioids for Subcutaneous Injection

Table 1 – Subcutaneous Pain Medication

Name of drug	What is it used for?	How long does it take to work after subcutaneous injection?	Common side effects
Morphine Sulphate (Morphine)	<ul style="list-style-type: none"><li>• Pain</li><li>• Sensation of breathlessness</li></ul>	20 minutes to take effect and peaks around 30-60 minutes.	<ul style="list-style-type: none"><li>• constipation</li><li>• nausea and vomiting*</li><li>• dry mouth</li><li>• itchy skin*</li><li>• confusion*</li><li>• drowsiness*</li></ul> *usually temporary
Oxycodone Hydrochloride (Oxycodone)	<ul style="list-style-type: none"><li>• Pain</li><li>• Sensation of breathlessness</li></ul>	20 minutes to take effect and peaks around 30-60 minutes	See above
Diamorphine	<ul style="list-style-type: none"><li>• Pain</li><li>• Sensation of breathlessness</li></ul>	20 minutes to take effect and peaks around 30-60 minutes	See above

Check instructions left for you by the healthcare team. They will explain to you how often the medication can be given.

You may be given permission to give an extra dose of as-needed medication for pain one hour after the previous dose if this has not worked. If you give this extra dose, you should inform your healthcare team straight away. The doctor or nurse may wish to come to visit the person you are caring for.

Being allowed to give an extra dose after one hour may not be the best course of action for everyone so the decision will be made by your healthcare team who will discuss this with you.

## 3. Information About Other Common Symptoms

### Overview of Common Symptoms

The information provided in this section is a guide to other symptoms which you may be trained to give as-needed medication for. It aims to provide information about what to expect, simple suggestions that can ease the symptoms and outlines subcutaneous medications that can assist with management. For information about other symptoms consult your healthcare team.

#### **Agitation**

Agitation or restlessness is common, particularly in the last days or hours of life. The person may seem anxious or unsettled, have fidgety movements, make distressed sounds, or have twitching. The person may pick at the bedclothes, or they may moan or call out, or make a noise each time they breathe. This can be distressing for carers to see.

Check to see if the person is experiencing any pain, or anything obvious that may be causing the problem.

You may be able to help reduce the restlessness by simply sitting with the person and reassuring them that they are safe and loved. The healthcare team will be able to help work out whether pain is causing restlessness, and if so, how to treat it. Refer to Table 2 for commonly used subcutaneous medications that your healthcare team may have prescribed.

Anxiety can also make someone look restless. The causes of anxiety may be physical, emotional or a combination of both. If a person becomes anxious it can increase other symptoms such as pain, nausea/vomiting or breathlessness. It is important to recognise if the person you are caring for becomes anxious, so that you can relieve this with the medication that has been prescribed by the healthcare team. Table 2 outlines some of the common subcutaneous medications used for anxiety.

#### **Nausea and vomiting**

There are many reasons why someone can feel nauseous (sickly) or vomits, including side effects of strong pain medications. Nausea may be experienced with or without vomiting. It may help if the person rests for about one hour after taking strong pain medications.

Nausea and/or vomiting can be treated with medications, given either in a syringe driver or pump or given as breakthrough medication via the cannula or a combination of both. There are several medications that assist with nausea and vomiting – Refer to Table 2 for commonly used subcutaneous medications that your healthcare team may have prescribed.

### **Noisy ‘rattly’ breathing**

Towards the end of life a person’s breathing may become noisy. This is likely to be because of some fluid collecting at the back of their throat as they are too weak to swallow, which can cause a rattling sound. Noisy breathing does not seem to cause distress to the dying person, but may be upsetting to hear. It may be helpful to change the person’s position so that they are lying more onto their side with their head slightly raised. There are medications which may help to reduce noisy breathing. Refer to Table 2 for commonly used subcutaneous medications that your healthcare team may have prescribed.

### **Breathlessness**

Some people may experience difficulty with breathing. This may be related to their disease, to anxiety or a combination of both. If this is a new symptom please report it to the healthcare team. Often, shortness of breath can contribute to anxiety.

Some strategies that can help a person with breathing difficulties include:

- Repositioning the person, for example sitting more upright;
- Allow air to flow through the room, for example using a fan or opening a window;
- Use of relaxation and breathing techniques.

Opioids such as morphine is used for the relief of the sensation of breathlessness. Midazolam is used for the anxiety associated with breathlessness.

### **Other symptoms**

#### *Itch*

Itchiness is common towards the end of life and can be caused by many things such as dry skin, allergy, side effects of medications or the disease itself. If left untreated it may cause the person to become restless or anxious. Applying skin creams that are water-based, especially after a bath will help.

## Symptom Management: Commonly Used Subcutaneous Medications

Table 2 – Commonly Used Subcutaneous Medications

Name of drug	What is it used for?	How long does it take to work after subcutaneous injection?	Common side effects
Glycopyrronium	<ul style="list-style-type: none"> <li>noisy 'rattly' breathing (respiratory secretions)</li> </ul>	15-20 minutes; peaks within 45 minutes.	<ul style="list-style-type: none"> <li>can irritate the skin; give slowly; your nurse will guide you</li> <li>nausea</li> <li>blurred vision</li> <li>dry mouth</li> </ul>
Hyoscine Hydrobromide	<ul style="list-style-type: none"> <li>noisy 'rattly' breathing (respiratory secretions)</li> </ul>	30 minutes to take full effect and lasts about 4 hours	<ul style="list-style-type: none"> <li>drowsiness</li> <li>dry mouth</li> <li>blurred vision</li> <li>rash</li> <li>agitation</li> </ul>
Levomepromazine (Nozinan)	<ul style="list-style-type: none"> <li>nausea and vomiting</li> <li>agitation/restlessness</li> </ul>	60 minutes to take full effect	<ul style="list-style-type: none"> <li>drowsiness</li> <li>rash</li> <li>dry mouth</li> </ul>
Midazolam	<ul style="list-style-type: none"> <li>agitation/restlessness</li> <li>anxiety (with or without breathlessness)</li> </ul>	10-15 minutes, short acting.	<ul style="list-style-type: none"> <li>can irritate the skin; give slowly; your nurse will guide you</li> <li>drowsiness</li> <li>forgetfulness</li> </ul>
Cyclizine	<ul style="list-style-type: none"> <li>nausea and vomiting</li> </ul>	60 minutes to take full effect.	<ul style="list-style-type: none"> <li>drowsiness</li> <li>nausea</li> <li>dry mouth</li> <li>blurred vision</li> </ul>

Check instructions left for you by the healthcare team. They will explain to you how often the medication can be given.

## 4. Problems you might encounter

### a. What happens if I run out of medications?

This is a problem that can cause worry. However, with some planning you can minimise the likelihood of it occurring. A few suggestions to ensure that you always have enough medication(s) include::

#### **Make contact with your local pharmacist.**

- Discuss your needs, and the medications you might require from time to time.
- Try to get prescriptions to the pharmacist at least one day before you need them.

#### **Check if the pharmacist has an after-hours service.**

- If not, ask whether they can give you another contact in case you need supplies out of daytime opening hours.

#### **Check your stock of medication before 9am each day**

- Make sure you have enough to see you through, especially if a weekend or public holiday is approaching
- Some pharmacies have a home delivery service. Ask your pharmacist.

### b. What if the ampoule would not open?

Sometimes glass ampoules can be a bit tricky to open. Please use the step-by-step guide provided.

- Your nurse may provide you with an ampoule opener and show you how it is used.
- Some ampoules have a 'dot' located on the neck of the ampoule. If there is a dot on the ampoule this shows where the weak point in the neck is and where the ampoule should break. Ensure the dot is facing away from you.
- Hold the ampoule in one hand, place the ampoule opener on to the top of the ampoule using the other hand. With your thumb, push the neck of the ampoule away from you to snap the top off.

### c. What if the injection is painful when I give it?

Subcutaneous injections can sometimes cause mild discomfort when being given.

- Some medications do sting more than others. Giving the injection slowly can help . to minimise the stinging.
- Cold injections can cause pain and irritation. To overcome this, gently rub the unopened ampoule between your palms for a couple of seconds. This will warm up the solution enough to lessen the stinging.



**d. What do I do if the injection site is leaking?**

Contact your healthcare team if you think that the site is leaking. Do not use the cannula to give injections until a doctor or nurse have visited.

**e. What if I am not available to give a medication when a breakthrough symptom occurs?**

Only carers who have been trained directly by the healthcare professionals to give subcutaneous medications should administer these. You should not try to train anyone else to give these medications in your absence. If you are not available or if you don't feel able to give a medication the healthcare professionals should be contacted so they can attend to give the medication..

## Documentation Forms and Instruction Guides

In addition to this book, your training pack will include:

- A Carer Diary
- Step-by-step guides

Remember, if you are worried about any aspect of care, please let your healthcare team know. Carer support services are also available, please ask your doctor or nurse about this.

## This image shows a full page of a document template designed for handwriting practice or general writing. It consists of approximately 30 evenly spaced, horizontal dotted lines extending across the entire width of the page. The background is plain white, and there are no margins, headers, footers, or other markings present.

