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Project Report

Title

What happens at home when patients are discharged with breakthrough SC medications?

Objective

1. To improve colleagues' awareness of 'Caring at Home' project, and on how breakthrough subcutaneous (SC) medications are administered at home.

2. To address how pharmacist counselling can help prevent medication-related issues at home to improve patient care.

Background

Most palliative patients preferred to be cared for at home, and approximately 60-70% of Australians would prefer to die at home.(1, 2) However, less than 10% of Australians were able to achieve this.(3) Subcutaneous (SC) medications for breakthrough symptoms are usually prescribed in advance for palliative patients for management of pain, nausea/vomiting, restlessness/agitation and shortness of breath.(4) If patients have to wait for a healthcare professional to administer these breakthrough medications, the administration can be severely delayed by their travel time to home.(4) Long waits mean that these symptoms are often not adequately managed in the home setting.(4) Failure to control symptoms is a likely cause of patient and carer distress, and it can lead to unwanted hospital admissions.(5) The likelihood of patients remaining symptomatically well managed at home and be able to die at home often depends on the availability of able carers who may be required to administer SC medications.(4, 6)

Successful carer-administration of breakthrough SC medications for palliative patients may help improve patients' experience by providing rapid symptom control and supporting their wish to die at home.(4) Furthermore, this can help reduce unwanted admissions due to uncontrolled symptoms and their associated costs.(4) It can also help free up community-based palliative care team to address other patients and family's needs.(4) This will, in turn, result in sustainability of services.(4)

Research shows that with consistent resources, training, and support from healthcare professionals, carers can confidently and competently administer SC medications for the management of breakthrough symptoms.(6-8)

Palliative care services available in the ACT are based at Clare Holland House.(9) The service includes a 19-bed inpatient unit and community specialist palliative care (CSPC) service.(9) Calvary Hospital has been providing pharmacy service to the inpatient unit. However, Calvary Hospital pharmacist's role for CSPC has been limited to the supply of the Special Access Scheme. Therefore, pharmacists have limited awareness on how palliative care patients are being managed in the community.

My activity is to present to my colleagues the 'Caring At Home' Project and medication management at home when patients are discharged with subcutaneous (SC) medications.

Activity

I conducted a 30-minute presentation on "What happens at home when patients are discharged with SC medications?". The target audience for my presentation was pharmacy colleagues at The Calvary Public Hospital Bruce, Canberra. The presented topics were as follows:

Part 1. The 'Caring At Home' Project and medication management at home when patients are discharged with SC medications. The topics of the presentation included:(10,11)

- What is the 'Caring at Home' Project?
- Overview of carer training session which include:
    - Recognising and rating breakthrough symptoms
    - Knowing what subcutaneous medicines to give
    - Writing a label, opening an ampoule and drawing up medicine
    - Giving medicine using a subcutaneous cannula
    - Checking the subcutaneous cannula
    - Recording in the medicines diary
    - Making sure there are enough medicines in the house
    - Safely storing and disposing of subcutaneous medicines
    - Seeking further advice

I ordered a 'Caring at Home' kit from their website and used it during my presentation.

Part 2. I presented medications-related problems I came across during my PEPA placement home visits with the follow up.

This presentation was based on a real patient case with end-stage COPD. This patient was discharged from Clare Holland House inpatient unit as she wished to die at home. Prior to discharge, I counselled the patient and her carer regarding the indications, dosing, frequency and adverse effects of discharge medications before transferring of care to the Home-Based Palliative Care (HBPC) team. During PEPA placement, I had the opportunity to visit this patient, and I found a few potential concerns. These included questions from patients and carers regarding onset and duration of SC medications, poor documentation of SC medications administration, poor storage condition of medications and drawn-up syringes.

These problems can be prevented by extra pharmacy counselling. Therefore, I presented the examples of additional counselling points I would provide to patients on discharge. These included:

- Providing education along with written information or information leaflets on onset and duration of action of subcutaneous medications, and actions to take if symptoms have not been well controlled.
  The example I can use during counselling are excerpts from the 'Subcutaneous Medications and Palliative Care: A guide for caregivers' booklet, which was developed by the Brisbane South Palliative Care Collaborative (see appendix). (12) These provide helpful information on indication, onset and duration of action, and common side effects of SC medications.(12)
- Reiterating the importance of the medicine diary as a critical tool to enable team members to assess the effectiveness of a medication regimen for patients.
- Providing education on storage and disposal of medicines, especially for pre-prepared syringes. Medicines ampules should be store in a secure container that is not accessible to the public.(13) The consensus-based practice is that filled syringes should be stored for 24 hours in a secure container in a fridge.(10,13)

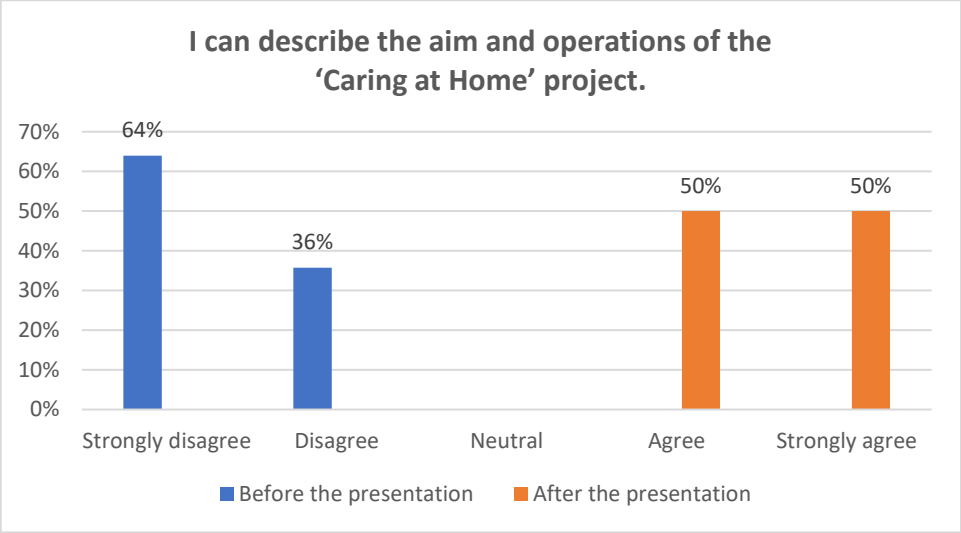
Evaluation of the impact of the project

In terms of project evaluation, I asked participants to complete a set of questionnaires, one before the presentation, and one after the presentation. The participants rated their level of agreement against the following statements, which was divided into five levels from strongly disagree to strongly agree:

- I can describe the aim and operations of the 'Caring at Home' project.
- I know what resources and information to provide to a patient/carer to help them safely use SC medicines and manage breakthrough symptoms at home.
- I am confident in counselling a patient/carer regarding the time to onset of breakthrough medications.
- I am confident in counselling a patient/carer regarding the storage of breakthrough medications and drawn-up syringes.

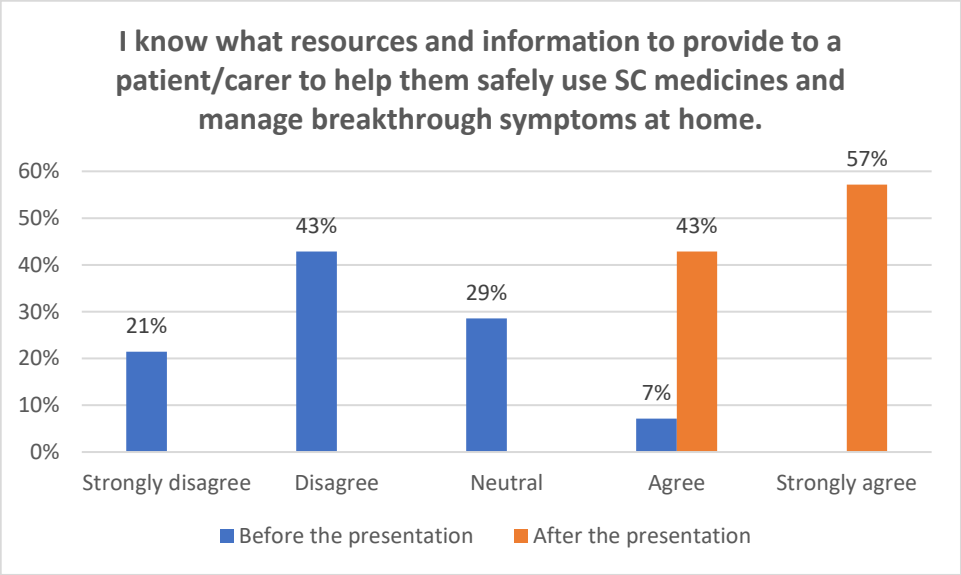
A total of 14 colleagues completed the questionnaires. The results are shown below:

Figure 1. Describe the aim and operations of the 'Caring at Home' project.



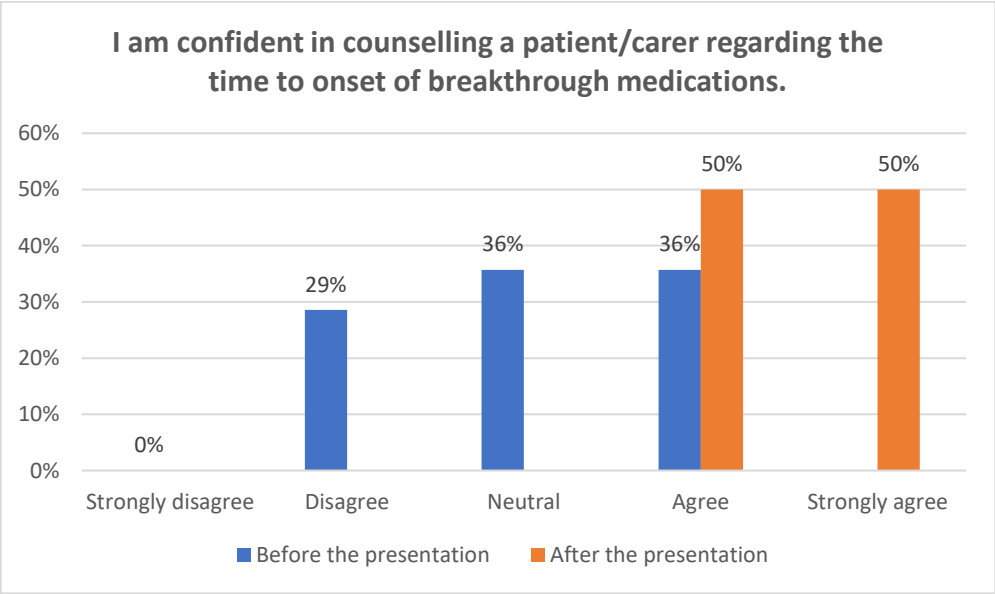
Before the presentation, all participants disagreed or strongly disagreed that they knew about the 'Caring at Home' project. After the presentation, they have all agreed or strongly agreed that they can now describe the aim and operations of the 'Caring at Home' project.

Figure 2. Knowing what resources and information to provide to a patient/carer to help them safely use SC medicines and manage breakthrough symptoms at home.



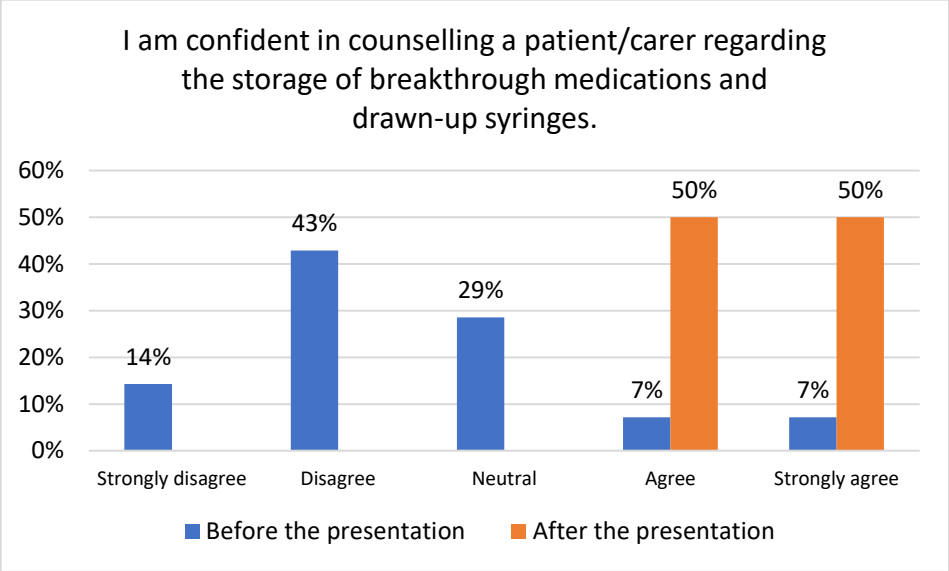
Before the presentation, a total of 64% of the participant disagreed or strongly disagreed that they knew about the resources and information to provide to a patient/carer to help them safely use SC medicines and manage breakthrough symptoms at home. After the presentation, all participants agreed or strongly agreed that they have learnt about the resources and information to provide to a patient/carer while counselling them prior to discharge.

Figure 3. Counselling a patient/carer regarding the time to onset of breakthrough medications.



Before the presentation, 29% of the participants expressed that they disagree with the statement of being confident in counselling a patient/carer regarding the time to onset of breakthrough medications, while 36% of the participants indicated that they are neutral to the statement. Only 36% of participants agreed that they are confident in this counselling task. After the presentation, all participants have either agreed or strongly agreed that they are confident in counselling a patient/carer regarding the time to onset of breakthrough medications.

Figure 4. Counselling a patient/carer regarding the storage of breakthrough medications and drawn-up syringes.



Before the presentation, A total of 57% of the participants disagreed or strongly disagreed that they were confident in counselling a patient/carer regarding the storage of breakthrough medications and drawn-up syringes. Only 14% agreed or strongly agreed with this statement. After the presentation, all participants have either agreed or strongly agreed that they are confident in counselling a patient/carer on these topics.

Reflection on the project

What impact do you think your project had?

According to the evaluation, my presentation has significantly improved awareness and understanding on the 'Caring at Home' project. My colleagues has gained a better understanding on the process in which breakthrough subcutaneous (SC) medications are given at home. They have also indicated that they have become more confident in counselling a patient/carer regarding the time to onset of breakthrough medications and the storage of breakthrough medications and drawn-up syringes.

In what way has or will your workplace activity influence the care of a person with a life-limiting illness in your, or your colleagues' care?

By better understanding the home medication management process and potential medication-related problems, it could improve the way in which pharmacists counsel patients and their carers on discharge medications. These include counselling about onset and duration of SC medications, reiterating the importance of the medicine diary, and providing education on storage and disposal of medicines. This will, in turn, result in improved medication safety and patient care.

How will you continue to share the knowledge and skills learned on your PEPA placement?

I provided my colleagues the website of caring at home project for their reference. I have made a 'Caring at Home kit' available in the pharmacy clinical room for pharmacist colleagues to refer to in the future. In addition, I have printed out information leaflets containing excerpts from the 'Subcutaneous Medications and Palliative Care: A guide for Caregivers' booklet. These leaflets are in the pharmacy clinical room for my colleagues to provide to the patients and carers during counselling session on discharge.

What worked well?

A key to the success of this project was the opportunity to undertake a PEPA placement, and to spend time with the HBPC team. Without these opportunities to observe medication management in a real community palliative care setting, I would not have learnt the process of managing breakthrough SC medications at home.

What would you do differently if undertaking this activity again?

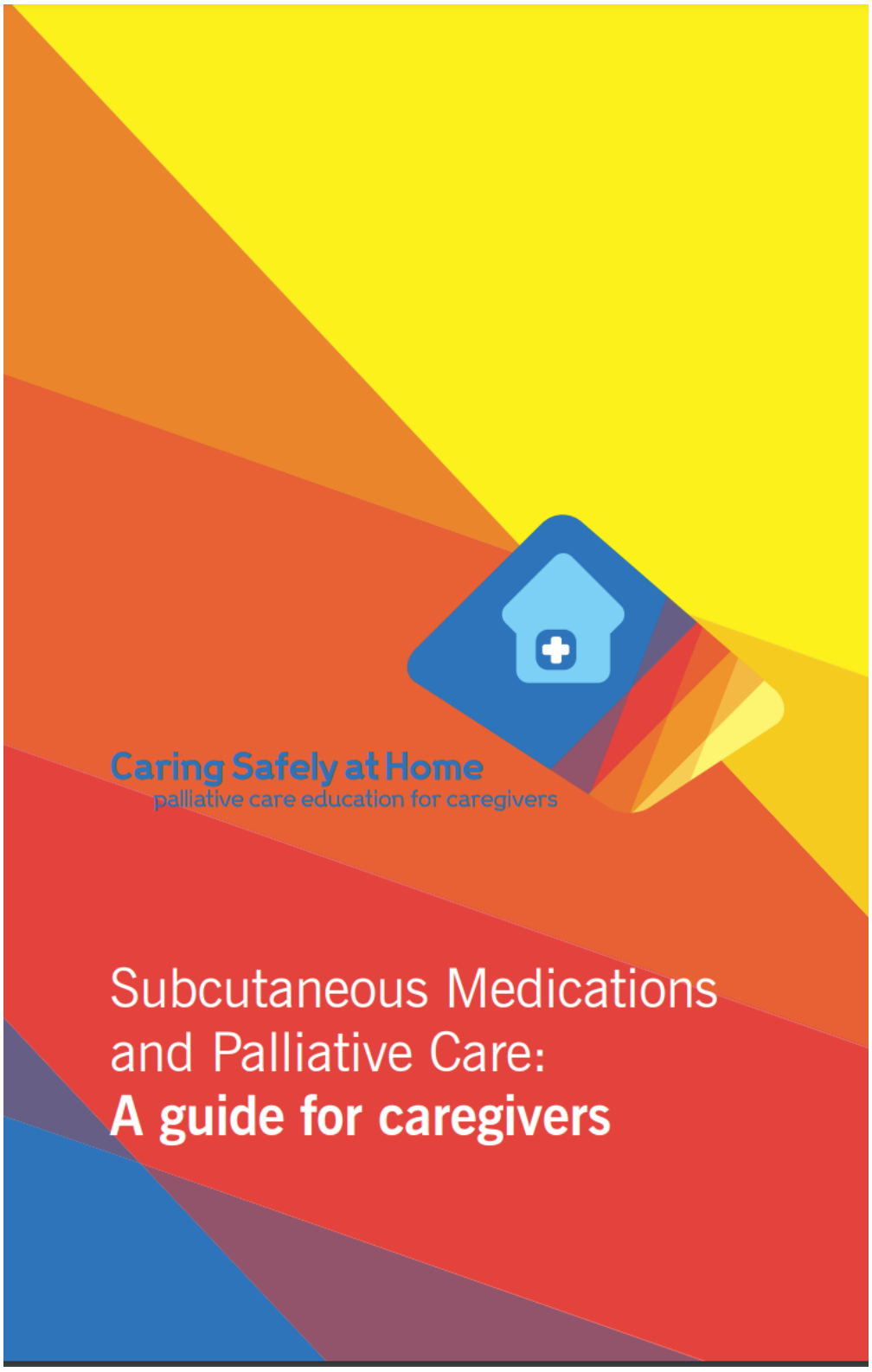
I would like to increase the length of my presentation from 30 minutes to 40 minutes. The extra 10 minutes would allow me to cover common myths and misconceptions regarding strong pain medications from palliative patients I encountered during my PEPA placement. For example, palliative patients held misconceptions on the potential negative impacts of addiction from using opioids for pain. This concern can result in under-usage of strong pain medications and can lead to inadequate pain control. Pharmacist counselling can help correct this misunderstanding. This can, in turn, result in better symptomatic control and better patient care.

References

1. Swerissen H, Duckett S. Dying well [Internet]: Grattan Institute; 2014 [cited 2021 Mar 22]. Available from: http://library.bsl.org.au/jspui/bitstream/1/5086/1/SwerissenH_Dying-well_GrattanInstitute-9-2014.pdf.
2. Israel F, Reymond L, Slade G, Menadue S, Charles MA. Lay caregivers' perspectives on injecting subcutaneous medications at home. Int J Palliat Nurs. 2008;14(8):390-5.
3. Productivity Commission. Introducing Competition and Informed User Choice into Human Services: Reforms to Human Services [Internet]. Canberra: Productivity Commission; 2017 [cited 2021 Mar 22]. Available from: https://www.pc.gov.au/inquiries/completed/human-services/reforms/report/human-services-reforms.pdf.
4. Poolman M, Roberts J, Byrne A, Perkins P, Hoare Z, Nelson A, et al. CARer-ADministration of as-needed subcutaneous medication for breakthrough symptoms in homebased dying patients (CARiAD): study protocol for a UK-based open randomised pilot trial. Trials. 2019;20(1):1-16.
5. Wilson E, Caswell G, Turner N, Pollock K. Managing medicines for patients dying at home: a review of family caregivers' experiences. J Pain Symptom Manag. 2018;56(6):962-74.
6. Healy S, Israel F, Charles MA, Reymond L. An educational package that supports laycarers to safely manage breakthrough subcutaneous injections for home-based palliative care patients: Development and evaluation of a service quality improvement. Palliat Med. 2013;27(6):562-70.
7. Healy S, Israel F, Charles M, Reymond L. Laycarers can confidently prepare and administer subcutaneous injections for palliative care patients at home: A randomized controlled trial. Palliat Med. 2018;32(7):1208-15.
8. Shepperd S, Gonçalves-Bradley DC, Straus SE, Wee B. Hospital at home: home-based end-of-life care. Cochrane Database Syst Rev. 2016;2(2):Cd009231.
9. Calvary. Clare Holland House: Little Company of Mary Health Care Ltd. ; 2021 [cited 2021 Feb 27]. Available from: https://www.calvarycare.org.au/public-hospital-bruce/services-and-clinics/clare-holland-house/.
10. Caring at Home. Caring@Home [Internet]: Brisbane South Palliative Care Collaborative; 2021 [cited 2021 Mar 8]. Available from: https://www.caringathomeproject.com.au/.
11. Caring at Home. A Practical Handbook for Carers [Internet]: Brisbane South Palliative Care Collaborative; 2018 [cited 2021 Mar 8]. Available from: https://www.caringathomeproject.com.au/Portals/13/Documents/caringathome-Handbook-WEB.pdf.
12. Healy S, Israel F, Reymond E, Lyons-Micic M. Subcutaneous Medications and Palliative Care [Internet]: A guide for caregivers Eight Mile Plains: The State of Queensland; 2016 [cited 2021 Mar 23]. Available from: https://www.caresearch.com.au/caresearch/Portals/0/Documents/WhatisPalliativeCare/NationalProgram/PCForPeopleAtHome/CSAH-Medication-Booklet-2016.pdf.
13. Caring at Home. Guidelines forthe handling of palliative care medicines in community services [Internet]: Brisbane South Palliative Care Collaborative and NPS MedicineWise; 2020 [cited 2021 Mar 8]. Available from: https://www.caringathomeproject.com.au/Portals/13/Documents/NPS-Palliative-Care-Guidelines-v25-jg260620-ACC.pdf

Appendix

Provided below is an example of the information leaflets, which are created from excerpts from the 'Subcutaneous Medications and Palliative Care: A guide for caregivers' booklet:[12]



Name of drug	What is it used for?	How long does it take to work after subcutaneous injection?	Common side effects
Fentanyl	- pain - breathlessness	20 minutes to take effect; peaks at about 1 hour, then starts to wear off.	- constipation - nausea and vomiting* - dry mouth - itchy skin* - confusion* - drowsiness* ***usually temporary**
****Hydromorphone** (Dilaudid)	- pain - breathlessness	20 minutes to take full effect and lasts up to 2.5 hours.	Same as Fentanyl, see above. Irritating to the skin: give slowly; your nurse will guide you.
****Morphine Sulphate** (Morphine)	- pain - breathlessness	20 minutes to take effect and peaks around 30-60 minutes.	Same as Fentanyl, see above.
****Oxycodone Hydrochloride** (Oxycodone)	- pain - breathlessness	Similar to morphine	Same as Fentanyl, see above.

*** Currently on the Pharmaceutical Benefit Scheme (PBS). This means that the cost of the medication has been subsidised by the Australian Government.*

Name of drug	What is it used for?	How long does it take to work after subcutaneous injection?	Common side effects
Clonazepam (Rivotril)	- restlessness - anxiety - nerve pain - prevention/ treatment of seizures** (PBS only for seizures)	15-20 minutes, long acting.	- can irritate the skin; give slowly; your nurse will guide you - drowsiness - shaky and unsteady movements - nausea - dry mouth - blurred vision
Glycopyrrolate (Robinul)	- respiratory secretions	15-20 minutes; peaks within 45 minutes.	- can irritate the skin; give slowly; your nurse will guide you - nausea - blurred vision - dry mouth
****Haloperidol** (Serenace)	- nausea and vomiting - confusion and/or restlessness	10-15 minutes; stays in the system for 13-35 hours.	- it is unusual, but Haloperidol can cause excessive, repetitive movements of the face - restlessness - drowsiness

Name of drug	What is it used for?	How long does it take to work after subcutaneous injection?	Common side effects
**Hyoscine Butylbromide (Buscopan)	- stomach secretions - stomach cramps - respiratory secretions	Rapid acting and lasts about 2 hours.	- dry mouth - rash - blurred vision - constipation
Hyoscine Hydrobromide (Hyoscine)	- respiratory secretions	30 minutes to take full effect and lasts about 4 hours.	- drowsiness - dry mouth - blurred vision - rash - agitation
Methotrimeprazine Hydrochloride (Nozinan)	- restlessness - nausea and vomiting	60 minutes to take full effect.	- drowsiness - rash - dry mouth

Name of drug	What is it used for?	How long does it take to work after subcutaneous injection?	Common side effects
**Metoclopramide (Maxolon)	- nausea and vomiting - hiccups	30-60 minutes to take effect and lasts in the system for approximately 2.5-5 hours, may be longer in some patients.	- can irritate the skin; give slowly; your nurse will guide you - restlessness - drowsiness - dizziness
Midazolam (Hypnoval)	- restlessness - to reduce anxiety - seizures	5-10 minutes, short acting.	- can irritate the skin; give slowly; your nurse will guide you - drowsiness - forgetfulness
**Promethazine (Phenergan)	- nausea and vomiting - itchiness	30-60 minutes; lasts in the system for 5-14 hours.	- can irritate the skin; give slowly; your nurse will guide you - dry mouth - drowsiness - blurred vision - dry eyes

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