SYRINGE DRIVER USE

Consider its use if the patient is **unable to swallow** or has **nausea/vomiting**, also in the **terminal stages**. Use a **20 ml or 30 ml luer lock syringe**. **USE WATER FOR INJECTION AS THE DILUENT.**

Commonly Used Syringe Driver Drugs are:

DIAMORPHINE - for pain known or likely to be opioid sensitive - may accumulate in Renal failure.

- If previously on morphine, take total 24hr dose of oral morphine and divide by 3 to calculate total amount of diamorphine to be used in syringe driver over 24 hour period.
- If not previously on an opioid, start at 10-20mg over 24 hours.
- Vials available as 5, 10, 30 & 100mg pack sizes 5. + 500mg.

OXYCODONE - can be used as an alternative for diamorphine.

- To calculate SC dose of oxycodone from oral dose use two thirds of the oral dose.
- If breakthrough dose > 20mg prescribe diamorphine as oxycodone injection may be painful.
- Vials 10mg/ml 1ml & 2ml amps pack size 5.

HALOPERIDOL - for nausea due to medication, renal/liver failure, or if cause unknown; also antipsychotic.

- Dose range: for nausea 2.5 to 10mg over 24 hours; for delirium 5 to 30mg over 24 hours.
- Vials 5mg/ml 1 ml amp pack size 5.

CYCLIZINE - nausea due to intra-abdominal disease, cough or brain tumour. Avoid in severe heart failure.

- Dose range 100 to 200mg over 24 hours (may be up to 300mg over 24 hours seek advice).
- May crystallize (goes cloudy) in high doses in combination with other drugs.
- Vials 50mg/ml 1 ml amp pack size 5.

LEVOMEPROMAZINE (Nozinan) - if above fail, and/or for terminal agitation/delirium.

- Dose range 6.25 to 25mg over 24 hours (antiemetic); 25 to 150mg over 24 hours (terminal agitation).
- Make as dilute as possible (use a 20 or 30ml syringe).
- Vials 25mg/ml 1 ml amp pack size 10.

MIDAZOLAM (Hypnovel) - First Line sedative for terminal agitation; anticonvulsant properties, including myoclonus.

- dose range 10 to 80mg over 24 hours; may be as high as 120mg over 24 hours (seek advice).
- Vials 5mg/ml 2 ml amp pack size 10.

GLYCOPYRRONIUM for moist, noisy breathing in the terminal stages.

- Dose range 400 to 1200 micrograms over 24 hours.
- Vials 200 microgram/ml 1 ml & 3 ml amps pack size 10.
- Could use HYOSCINE BUTYLBROMIDE as alternative 60 to 120mg over 24 hours.
- Vials 20mg/ml 1 ml amp pack size 10.

WATER for INJECTIONS - prescribe 10ml amps - pack size 10. This should be prescribed by GP.

Transdermal drug

FENTANYL (Durogesic) patch - for pain control. Not started in terminal phase.

- 25 microgram/hour patch is roughly equivalent to 60 to 90mg oral morphine per day.
- Patch changed every 72 hours (3 days). Occasionally, this needs to be reduced to every 48 hours.
- Breakthrough analgesia is 5mg diamorphine subcutaneously for every 25mcg/hr of fentanyl.
- If pain worsening during terminal phase, CONTINUE FENTANYL AND ADD DIAMORPHINE IN SYRINGE DRIVER.

"As Needed" drugs. All can be given subcutaneously

THE SIX DRUGS SHOULD BE AVAILABLE IN THE PATIENT'S HOME AND PRESCRIBED IN THE DOSES STATED EXCEPT THE DIAMORPHINE RANGE WHICH WILL NEED TO BE CALCULATED

- DIAMORPHINE use one sixth of total 24 hour diamorphine dose, usually 2 to 4 hourly.
- LEVOMEPROMAZINE 6.25 to 12.5mg (nausea), 12.5 to 25mg (delirium), 3 hourly.
- MIDAZOLAM (Hypnovel) stat dose for restlessness (which may be caused by pain, positional discomfort, urinary retention or constipation) is 2.5 to 10mg, 3 hourly. For sedation during haemorrhage, Midazolam 10mg may need to be repeated at 30 minute intervals. Note there is a special buccal preparation which can be given by carers.
- GLYCOPYRRONIUM 200 to 400 micrograms, 3 hourly. If not available, use HYOSCINE BUTYLBROMIDE AS 20mg stat dose repeated 3 hourly.
- HALOPERIDOL 1.5mg to 5mg For nausea.
- CYCLIZINE up to 4x a day for nausea.

Advice from specialist palliative care service (Monday-Friday 9-5) telephone (East) 01625 663177. (Central) 01606 551246.

For more information see "palliative care section" at the front of the British National formulary (BNF). Information about drug combinations can be found at the back of the PCT syringe driver guidelines.

For out of hours advice please contact either East Cheshire Hospice Staff 01625 666999 or St Lukes Hospice 01606 551246.

Code:- pct/DN108 Review date February 2010



Cheshire East Community Health

Booklet No.	NHS No.
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Controlled Drug / Syringe Driver Prescription and Administration Record

,		
Surname	Forenames	Mr. Date of Birth Mrs. Miss.
Address		Own G.P.
		Practice Name
		Tel. No. of Practice
Tel. No.		Named District Nurse
		Drug Sensitivites
Macmillan Nurse		Contact Number Macmillan Nurse
24 Hour Hospice Advice Line St. Lukes: 01606 551246		24 Hour Hospice Advice Line East Cheshire Hospice: 01625 666999

List of Patient's CONTROLLED DRUGS NOT administered by DISTRICT NURSES / CECH Staff

Name of Drug	Dosage	Frequency	Route	Usually administered by

Syringe Driver Serial No.	Date Serviced	Record Weekly Battery C Driver 1 / Date	Changes Driver 2 / Date

Doctor Prescriber

- 1 Use approved NAMES, BLOCK LETTERS, Metric Dosage (opioids by mg/mcg) & English instructions. Avoid abbreviations.
- 2 Prescribe CHANGES in drug therapy on a NEW PRESCRIPTION line. Do not alter existing instructions.
- 3 DISCONTINUE a drug by drawing a line through the prescription. Enter the date of cancellation and your initials
- 4 ALL PRESCRIPTIONS SHOULD BE REVIEWED REGULARLY.

Nurse

- 1 CHECK the entries in each section before administration of the drug(s).
- 2 The nurse giving the drug MUST complete the ADMINISTRATION RECORD and sign, after the drugs have been administered.
- 3 Ensure all drugs are signed and prescribed by a doctor.

Syringe Driver

		Oral Medic	est dose	Date	Date	Date	Date	Date
Drug			Time (24hr. clock)					
Note			Dose					
Dose	Route	Frequency	Nurses Signature					
Doctors S	ignature	Date	Nurses Signature					
Drug		'	Time (24hr. clock)					
Note			Dose					
Dose	Route	Frequency	Nurses Signature					
Doctors S	ignature	Date	Nurses Signature					
Drug		•	Time (24hr. clock)					
Note			Dose					
Dose	Route	Frequency	Nurses Signature					
Doctors S	ignature	Date	Nurses Signature					
Drug		'	Time (24hr. clock)					
Note			Dose					
Dose	Route	Frequency	Nurses Signature					
Doctors S	ignature	Date	Nurses Signature					
Drug		'	Time (24hr. clock)					
Note			Dose					
Dose	Route	Frequency	Nurses Signature					
Doctors S	ignature	Date	Nurses Signature					
Drug		·	Time (24hr. clock)					
Note			Dose					
Dose	Route	Frequency	Nurses Signature					
Doctors S	ignature	Date	Nurses Signature					
Line Chan	ige Y/N	'	Driver 1 Driver 2					
Syringe D	river Rate							
Site - Syri	nge Driver 1							
Site - Syri	nge Driver 2							

onversion Char

le 33 Converting from Oral Morphine to Fentanyl Transdermal Patches

_	lable 33 converting from Oral Morphille to Fertally) Harisdelliar Fatches	pinne to l'entany i n'ansaer	illai ratolles
	24-hrly morphine dose	Fentanyl Transdermal	Oral short-acting morphine
	(BIII)	(IIIIGIOGIAIII/II)	oleanii ougi dose
	06 - 09	25	15
	90 - 134	37	20
	135 - 189	50	30
	190 - 224	62	35
	225 - 314	75	45
	315 - 404	100	09
	405 - 494	125	92
	495 - 584	150	06
	585 - 674	175	105
	675 - 764	200	120
	765 - 854	225	135
	855 - 944	250	150
	945 - 1034	275	165
	ACAL 3001	000	001

In the case of end of life, patients who are established on transdermal patch and have increasing pain control issues refer to ICP (integrated care pathway) information on symptom control guidelines.

Greater Manchester and Cheshire Cancer network conversion chart

Table 31 Opioid Conversion Charts (note: - rounded to convenient doses)

orphone 3	le.	q4h		1.3	1.3	2.6	2.6	3.9	3.9	4.2	7.8	10.4	13	16.9	20.8	26
Hydromorphone mg	Oral	24hr	total	4	8	12	16	20	24	32	48	64	80	104	128	160
		q4h	4 hrly	2.5	5	5	5	7.5	10	15	20	25†	30±	40±	+09	70†
done g	SC	CSCI	24hr	10	20	30	40	20	09	80	120	160	200	260	330	400
Oxycodone mg	le le	q4h	4 hrly	2.5	5	7.5	10	12.5	15	20	30	40	50	65	80	100
	Oral	24hr	total	15	30	45	09	75	06	120	180	240	300	400	200	009
phine J		q4h	4 hrly	2.5	5	5	5	7.5	10	15	20	25	30	40	09	20
Diamorphine mg	SC	CSCI	24hr	10	20	30	40	20	09	80	120	160	200	260	330	400
		q4h	4 hrly	2.5	5	7.5	10	12.5	15	20	30	40	50	65	+ 08	100+
hine g	SC	CSCI	24hr	15	30	45	09	75	06	120	180	240	300	400	200	009
Morphine mg	al le	q4h	4 hrly	5	10	15	20	25	30	40	09	80	100	130	160	200
	Oral	24hr	total	30	09	06	120	150	180	240	360	480	009	800	1000	1200
	100	שוחט		Dose												

This table does **not** indicate incremental steps. Increases are normally in 30-50% steps - more, if indicated by need for p.r.n. doses. † SC volumes > 2ml are uncomfortable: oxycodone maximum concentration is 10mg/ml, and morphine is 30mg/ml: consider using **2 injection sites per p.r.n. dose or unless contra-indicated use equivalent diamorphine.**

Conversion factors:

From oral morphine to SC morphine - divide by 2

From oral morphine to SC diamorphine - divide by 3

From oral morphine to oral oxycodone - divide by 1.5 to 2 (calculated as 1.5 above)

From oral morphine to oral hydromorphone - divide by 7.5

From oral morphine to oral hydromorphone - divide by 2.5

From oral morphine (total per 24h) to fentanyl skin patch (mcg/h) - give 25mcg/h of Fentanyl for every 90mg of morphine (total per 24h) to fentanyl skin patch (mcg/h) - give 25mcg/h of Fentanyl for every 30mg of diamorphine Other opioids: Oral tramadol to oral morphine (total per 24h) - divide by 5

	Date	Date	Date	Date
Time				
(24hr. clock)				
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Nurses Signature				
Time (24hr. clock)				
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Date	Date	Date	Date

Drug Stock RecordPlease note that each drug and strength of drug needs to be in a separate table

	Signature										
	Batch No. Exp. Date										
ength	Total Stock										
Controlled Drug and Strength	New Stock										
rolled D	Time										
Conti	Date										
	Signature										
	Batch No. S Exp. Date S										
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Controlled Drug and Strength	New Stock										
olled D	Time										
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Drug Stock RecordPlease note that each drug and strength of drug needs to be in a separate table

Cont	rolled	Controlled Drug and Strength	rength			Contr	rolled [Controlled Drug and Strength	ength			
Date	Time	New Stock	Total Stock	Batch No. Exp. Date	Signature	Date	Time	New Stock	Total Stock	Batch No. Exp. Date	Signature	

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INJECTIONS TO BE GIVEN ON A PRN BASIS (These drugs should be available in patient's home)

PRN or Sta	atutory dose							
Tar or ote	atatory dosc			Date	Date	Date	Date	Date
Note	2 hourly (lo	nger in renal failure)	Time (24hr. clock)					
Drug	DIAN	ORPHINE	Dose					
Dose range	Route SC	Frequency Usually 2 to 4 Hourly	Nurses Signature					
Doctors Signa	ature	Date	Nurses Signature					
Note	Usual Max	Dosage(15mg/24hr)	Time (24hr. clock)					
Drug	HALO	OPERIDOL	Dose					
Dose 1.5 to 5mg	Route SC	Frequency 3 Hourly	Nurses Signature					
Doctors Signa	ature	Date	Nurses Signature					
Note		Dose (200mg/24hr) to ringe Driver content	Time (24hr. clock)					
Drug	CY	CLIZINE	Dose					
Dose 50mg	Route SC	Frequency 4/6 Hrly - 200 MG/Day	Nurses Signature					
Doctors Signa	ature	Date	Nurses Signature					
Note	Usual Max	Dosage(75mg/24hr)	Time (24hr. clock)					
Drug	LEVOME	PROMAZINE	Dose					
Dose 6.25 to 25mg	Route SC	Frequency 3 Hourly	Nurses Signature					
Doctors Signa	ature	Date	Nurses Signature					
Note dose range 2.5		Dosage(120mg/24hr) or catastrophic event only)	Time (24hr. clock)					
Drug	MID	AZOLAM	Dose					
Dose range	Route SC	Frequency 3 Hourly	Nurses Signature					
Doctors Signa	ature	Date	Nurses Signature					
Note	Usual Max I	Dosage(1200mcg/24hr)	Time (24hr. clock)					
Drug	GLYCO	PYRRONIUM	Dose					
Dose 200 to 400 Mircro gram	Route SC	Frequency 3 Hourly	Nurses Signature					
Doctors Signa	ature	Date	Nurses Signature					
Note			Time (24hr. clock)					
Drug	WATER FO	OR INJECTIONS	Dose					
Dose	Route SC	Frequency	Nurses Signature					
Doctors Signa	ature	Date	Nurses Signature					

Drug Stock RecordPlease note that each drug and strength of drug needs to be in a separate table

	Signature										
	Batch No. Exp. Date										
ength	Total Stock										
Controlled Drug and Strength	New Stock										
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Drug Stock RecordPlease note that each drug and strength of drug needs to be in a separate table

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	New Stock	Total Stock	Batch No. Exp. Date	Signature	Date	Time	New Stock	Total Stock	Batch No. Exp. Date	Signature	

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Date	Date	Date	Date

Drug Stock RecordPlease note that each drug and strength of drug needs to be in a separate table

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Additional Drugs

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Drug			Time (24hr. clock)					
Note			Dose					
Dose	Route	Frequency	Nurses Signature					
Doctors Si	gnature	Date	Nurses Signature					
Drug			Time (24hr. clock)					
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Dose	Route	Frequency	Nurses Signature					
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Dose	Route	Frequency	Nurses Signature					
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Drug		1	Time (24hr. clock)					
Note			Dose					
Dose	Route	Frequency	Nurses Signature					
Doctors Si	gnature	Date	Nurses Signature					

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