Ketamine Infusion
Prescription and Observation Chart - adult
Education Slide Presentation

A presentation prepared by the
Pain Interest Group Nursing Issues
in association with the Agency of Clinical Innovation
Pain Management Network

Please direct comments to:

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MARCH 31, 2017

Ketamine infusion
Prescription and Observation Chart - adult

The ketamine infusion prescription and observation chart for adult patients has been developed by a team of experts in the field of acute pain including clinical nurse consultants, anaesthetists and pharmacy representatives.

This chart has been designed for the administration of subcutaneous or intravenous ketamine infusions for patients who may have acute or chronic pain. This chart may not be appropriate for ketamine infusion administration in palliative care.

Standardisation of this chart promotes best practice in pain assessment and management of adverse effects in those patients who are receiving a ketamine infusion for pain management.

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Aim of this presentation:

This presentation aims to explain

- **how to use the chart** to record the prescription, administration and discarding of ketamine as a continuous infusion.
- **how to complete** the clinical observations.
- **guidelines on the management of patients** who are receiving ketamine as a continuous infusion including the management of adverse effects.

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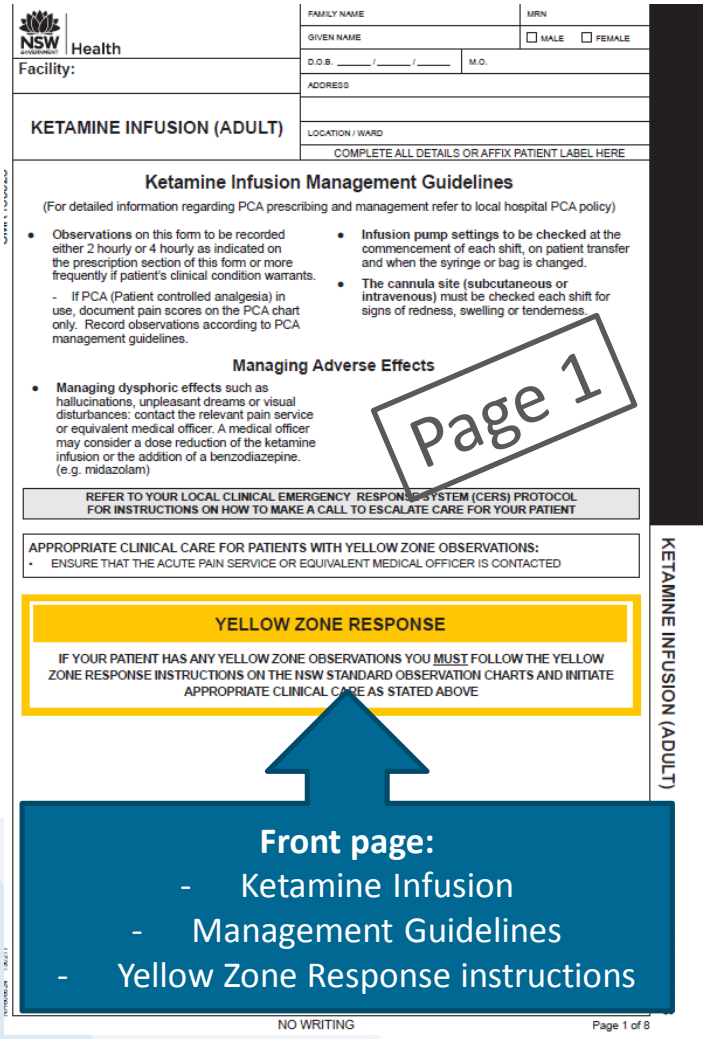
Ketamine Infusion
Prescription and Observation Chart - adult



NSW Health

Facility:

KETAMINE INFUSION (ADULT)

FAMILY NAME | MRN

GIVEN NAME | ☐ MALE ☐ FEMALE

D.O.B. ____/____/____ | M.O.

ADDRESS

LOCATION / WARD

COMPLETE ALL DETAILS OR AFFIX PATIENT LABEL HERE

Ketamine Infusion Management Guidelines

(For detailed information regarding PCA prescribing and management refer to local hospital PCA policy)

- **Observations** on this form to be recorded either 2 hourly or 4 hourly as indicated on the prescription section of this form or more frequently if patient's clinical condition warrants.
  - If PCA (Patient controlled analgesia) in use, document pain scores on the PCA chart only. Record observations according to PCA management guidelines.
- **Infusion pump settings to be checked** at the commencement of each shift, on patient transfer and when the syringe or bag is changed.
- **The cannula site (subcutaneous or intravenous)** must be checked each shift for signs of redness, swelling or tenderness.

Managing Adverse Effects

- **Managing dysphoric effects** such as hallucinations, unpleasant dreams or visual disturbances: contact the relevant pain service or equivalent medical officer. A medical officer may consider a dose reduction of the ketamine infusion or the addition of a benzodiazepine. (e.g. midazolam)

Page 1

REFER TO YOUR LOCAL CLINICAL EMERGENCY RESPONSE SYSTEM (CERS) PROTOCOL FOR INSTRUCTIONS ON HOW TO MAKE A CALL TO ESCALATE CARE FOR YOUR PATIENT

APPROPRIATE CLINICAL CARE FOR PATIENTS WITH YELLOW ZONE OBSERVATIONS:
- ENSURE THAT THE ACUTE PAIN SERVICE OR EQUIVALENT MEDICAL OFFICER IS CONTACTED

YELLOW ZONE RESPONSE

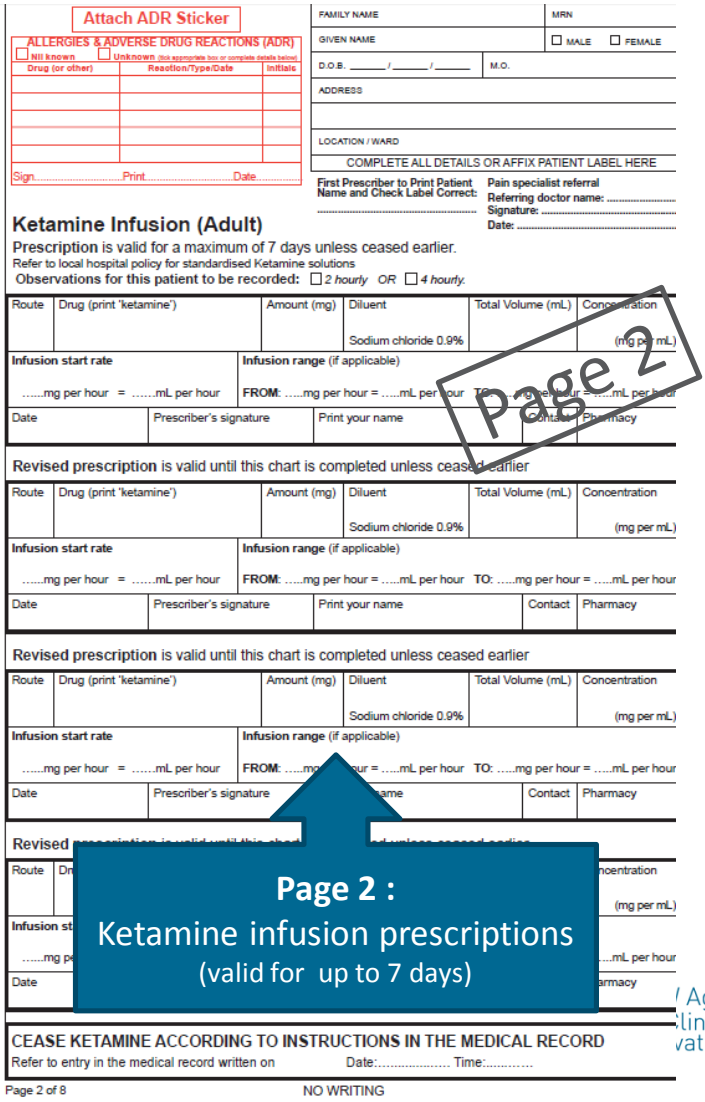
IF YOUR PATIENT HAS ANY YELLOW ZONE OBSERVATIONS YOU MUST FOLLOW THE YELLOW ZONE RESPONSE INSTRUCTIONS ON THE NSW STANDARD OBSERVATION CHARTS AND INITIATE APPROPRIATE CLINICAL CARE AS STATED ABOVE

KETAMINE INFUSION (ADULT)

NO WRITING

Page 1 of 8

Front page:
- Ketamine Infusion
- Management Guidelines
- Yellow Zone Response instructions



Attach ADR Sticker

ALLERGIES & ADVERSE DRUG REACTIONS (ADR)

☐ Nil known ☐ Unknown (tick appropriate box or complete details below)

Drug (or other)	Reaction/Type/Date	Initials

Sign..... Print..... Date.....

FAMILY NAME | MRN

GIVEN NAME | ☐ MALE ☐ FEMALE

D.O.B. ____/____/____ | M.O.

ADDRESS

LOCATION / WARD

COMPLETE ALL DETAILS OR AFFIX PATIENT LABEL HERE

First Prescriber to Print Patient Name and Check Label Correct: .....

Pain specialist referral

Referring doctor name: .....

Signature: .....

Date: .....

Ketamine Infusion (Adult)

Prescription is valid for a maximum of 7 days unless ceased earlier.

Refer to local hospital policy for standardised Ketamine solutions

Observations for this patient to be recorded: ☐ *2 hourly* OR ☐ *4 hourly.*

Route	Drug (print 'ketamine')	Amount (mg)	Diluent	Total Volume (mL)	Concentration
			Sodium chloride 0.9%		(mg per mL)

Infusion start rate .....mg per hour = ...mL per hour

Infusion range (if applicable) FROM: .....mg per hour = ...mL per hour TO: .....mg per hour = ...mL per hour

Date	Prescriber's signature	Print your name	Contact	Pharmacy

Page 2

Revised prescription is valid until this chart is completed unless ceased earlier

Route	Drug (print 'ketamine')	Amount (mg)	Diluent	Total Volume (mL)	Concentration
			Sodium chloride 0.9%		(mg per mL)

Infusion start rate .....mg per hour = ...mL per hour

Infusion range (if applicable) FROM: .....mg per hour = ...mL per hour TO: .....mg per hour = ...mL per hour

Date	Prescriber's signature	Print your name	Contact	Pharmacy

Revised prescription is valid until this chart is completed unless ceased earlier

Route	Drug (print 'ketamine')	Amount (mg)	Diluent	Total Volume (mL)	Concentration
			Sodium chloride 0.9%		(mg per mL)

Infusion start rate .....mg per hour = ...mL per hour

Infusion range (if applicable) FROM: .....mg per hour = ...mL per hour TO: .....mg per hour = ...mL per hour

Date	Prescriber's signature	Print your name	Contact	Pharmacy

Revised [illegible]

Route	Dr[illegible]				[illegible]oncentration
					(mg per mL)

Infusion st[illegible]

.....mg p[illegible] .....mL per hour

Date [illegible] [illegible]armacy

CEASE KETAMINE ACCORDING TO INSTRUCTIONS IN THE MEDICAL RECORD

Refer to entry in the medical record written on Date:..... Time:.....

Page 2 of 8 NO WRITING

Page 2 :
Ketamine infusion prescriptions
(valid for up to 7 days)

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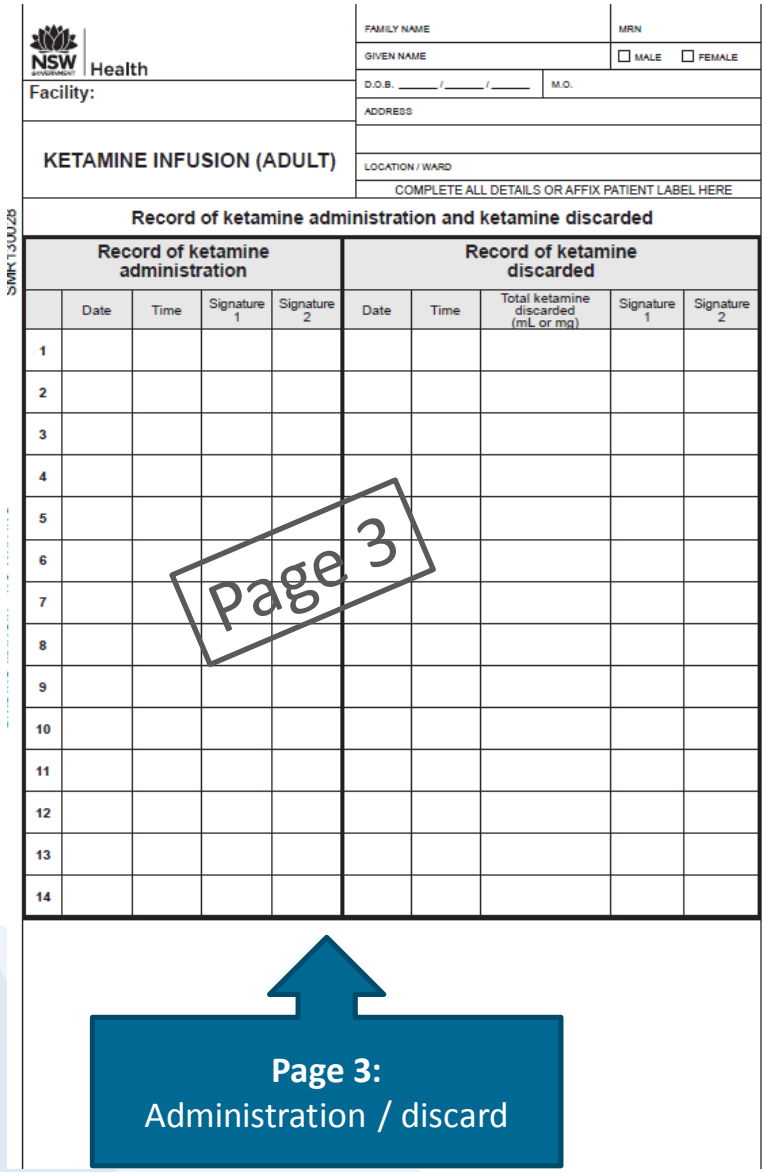


NSW Health

Facility:

KETAMINE INFUSION (ADULT)

FAMILY NAME | MRN

GIVEN NAME | ☐ MALE ☐ FEMALE

D.O.B. ____ / ____ / ____ | M.O.

ADDRESS

LOCATION / WARD

COMPLETE ALL DETAILS OR AFFIX PATIENT LABEL HERE

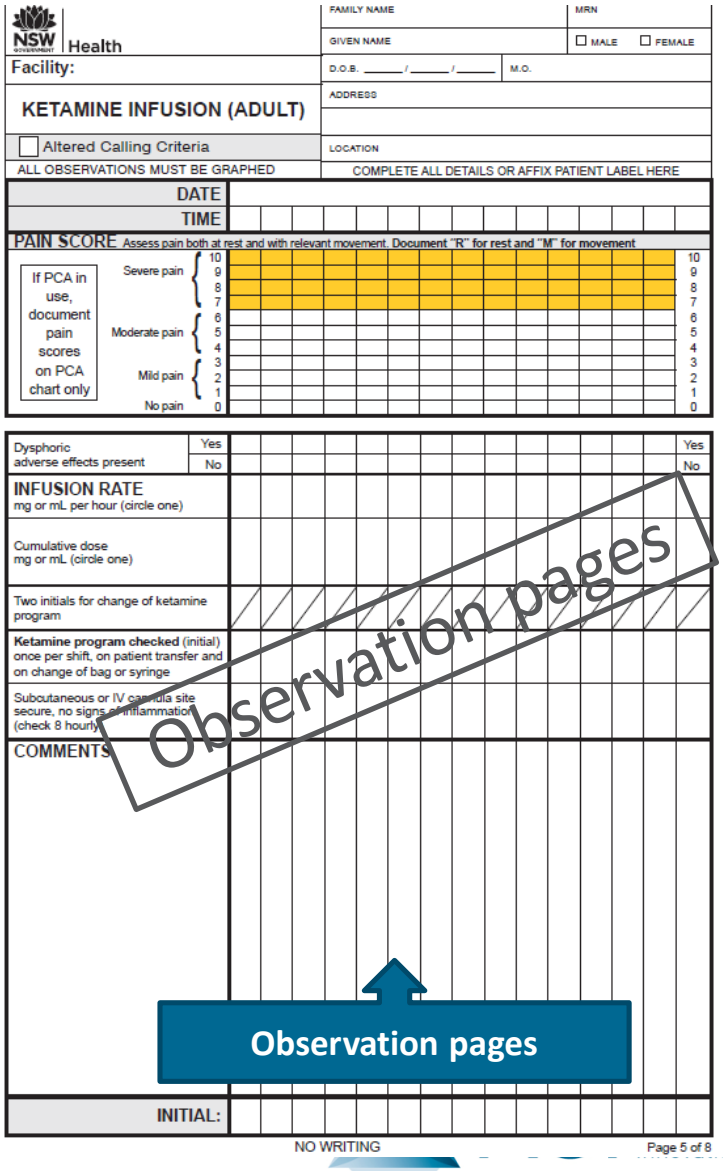
SMK130028

Record of ketamine administration and ketamine discarded

	Record of ketamine administration				Record of ketamine discarded				
	Date	Time	Signature 1	Signature 2	Date	Time	Total ketamine discarded (mL or mg)	Signature 1	Signature 2
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									

Page 3

Page 3:
Administration / discard



NSW Health

Facility:

KETAMINE INFUSION (ADULT)

☐ Altered Calling Criteria

ALL OBSERVATIONS MUST BE GRAPHED

FAMILY NAME | MRN

GIVEN NAME | ☐ MALE ☐ FEMALE

D.O.B. ____ / ____ / ____ | M.O.

ADDRESS

LOCATION

COMPLETE ALL DETAILS OR AFFIX PATIENT LABEL HERE

DATE

TIME

PAIN SCORE Assess pain both at rest and with relevant movement. Document "R" for rest and "M" for movement

If PCA in use, document pain scores on PCA chart only

Severe pain 10 9 8 7

Moderate pain 6 5 4

Mild pain 3 2 1

No pain 0

Dysphoric adverse effects present: Yes / No

INFUSION RATE mg or mL per hour (circle one)

Cumulative dose mg or mL (circle one)

Two initials for change of ketamine program

Ketamine program checked (initial) once per shift, on patient transfer and on change of bag or syringe

Subcutaneous or IV cannula site secure, no signs of inflammation (check 8 hourly)

COMMENTS

INITIAL:

NO WRITING

Page 5 of 8

Observation pages

Observation pages

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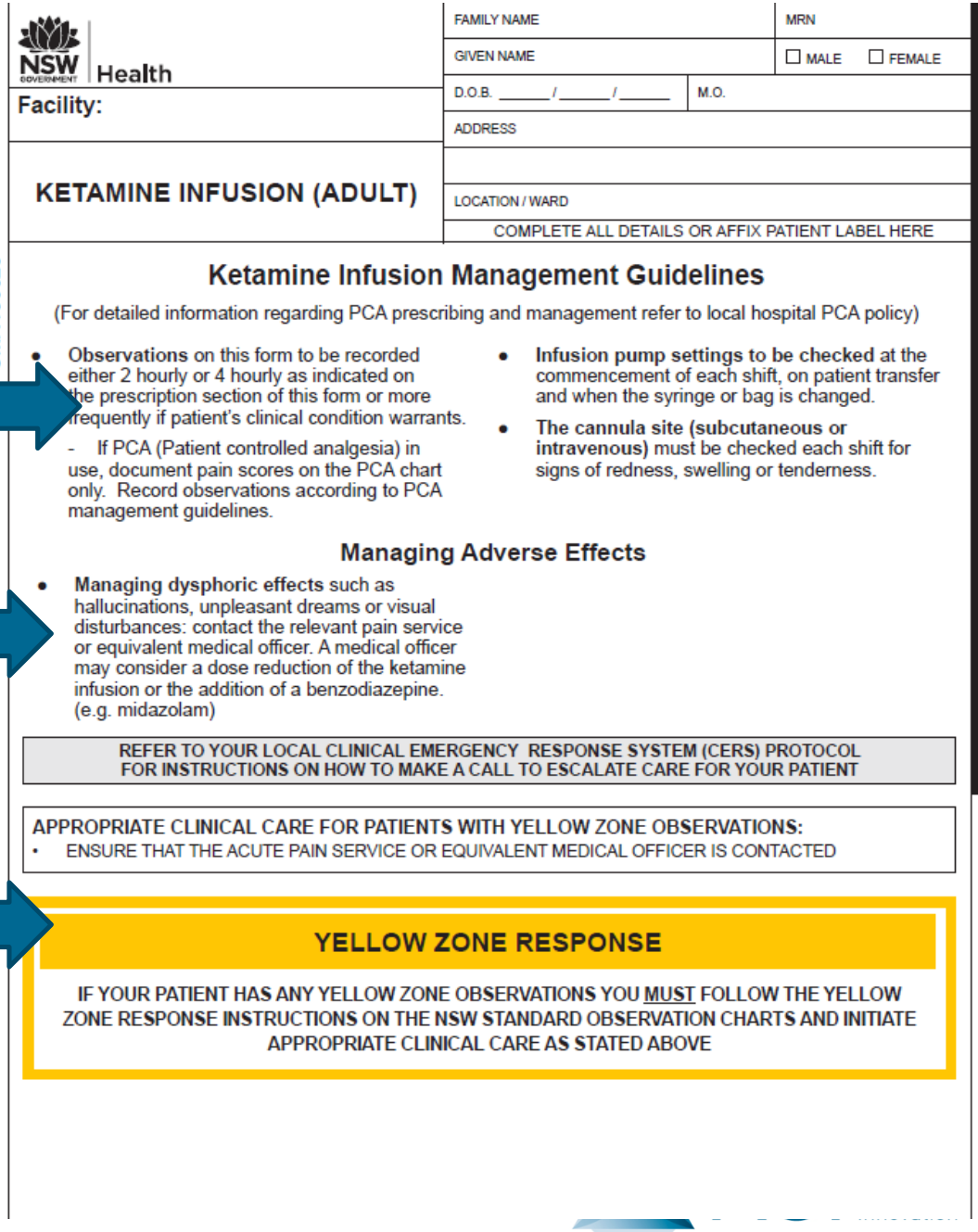
Ketamine Infusion Management Guidelines:

Ketamine Infusion Management Guidelines

Managing adverse effects

Yellow Zone Response instructions



NSW GOVERNMENT Health

Facility:

FAMILY NAME | MRN

GIVEN NAME | ☐ MALE ☐ FEMALE

D.O.B. _____/_____/_____ | M.O.

ADDRESS

LOCATION / WARD

COMPLETE ALL DETAILS OR AFFIX PATIENT LABEL HERE

KETAMINE INFUSION (ADULT)

Ketamine Infusion Management Guidelines

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Managing Adverse Effects

- **Managing dysphoric effects** such as hallucinations, unpleasant dreams or visual disturbances: contact the relevant pain service or equivalent medical officer. A medical officer may consider a dose reduction of the ketamine infusion or the addition of a benzodiazepine. (e.g. midazolam)

REFER TO YOUR LOCAL CLINICAL EMERGENCY RESPONSE SYSTEM (CERS) PROTOCOL FOR INSTRUCTIONS ON HOW TO MAKE A CALL TO ESCALATE CARE FOR YOUR PATIENT

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KETAMINE INFUSION (ADULT)

PAIN INTEREST GROUP NURSING ISSUES

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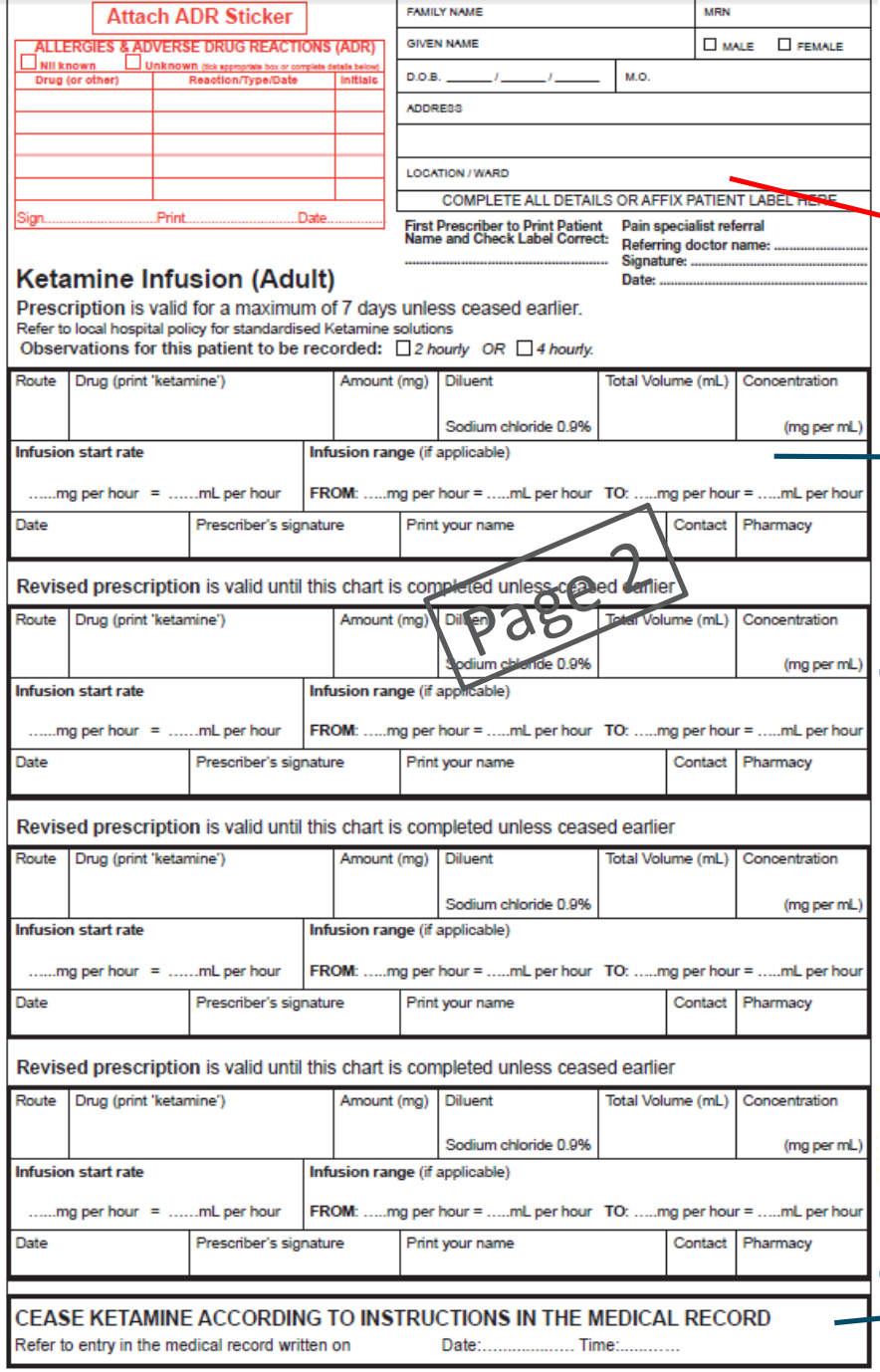
Ketamine Prescription:



Attach ADR Sticker

ALLERGIES & ADVERSE DRUG REACTIONS (ADR)
☐ Nil known ☐ Unknown (tick appropriate box or complete details below)

Drug (or other)	Reaction/Type/Date	Initials

Sign..... Print..... Date.....

FAMILY NAME | MRN
GIVEN NAME | ☐ MALE ☐ FEMALE
D.O.B. ____/____/____ | M.O.
ADDRESS
LOCATION / WARD
COMPLETE ALL DETAILS OR AFFIX PATIENT LABEL HERE

First Prescriber to Print Patient Name and Check Label Correct: .....

Pain specialist referral
Referring doctor name: .....
Signature: .....
Date: .....

Ketamine Infusion (Adult)

Prescription is valid for a maximum of 7 days unless ceased earlier.
Refer to local hospital policy for standardised Ketamine solutions
Observations for this patient to be recorded: ☐ *2 hourly* OR ☐ *4 hourly.*

Route	Drug (print 'ketamine')	Amount (mg)	Diluent	Total Volume (mL)	Concentration
			Sodium chloride 0.9%		(mg per mL)

Infusion start rate: .....mg per hour = ...mL per hour
Infusion range (if applicable): **FROM**: .....mg per hour = ...mL per hour **TO**: .....mg per hour = ...mL per hour

Date	Prescriber's signature	Print your name	Contact	Pharmacy

Revised prescription is valid until this chart is completed unless ceased earlier

Route	Drug (print 'ketamine')	Amount (mg)	Diluent	Total Volume (mL)	Concentration
			Sodium chloride 0.9%		(mg per mL)

Infusion start rate: .....mg per hour = ...mL per hour
Infusion range (if applicable): **FROM**: .....mg per hour = ...mL per hour **TO**: .....mg per hour = ...mL per hour

Date	Prescriber's signature	Print your name	Contact	Pharmacy

Page 2

Revised prescription is valid until this chart is completed unless ceased earlier

Route	Drug (print 'ketamine')	Amount (mg)	Diluent	Total Volume (mL)	Concentration
			Sodium chloride 0.9%		(mg per mL)

Infusion start rate: .....mg per hour = ...mL per hour
Infusion range (if applicable): **FROM**: .....mg per hour = ...mL per hour **TO**: .....mg per hour = ...mL per hour

Date	Prescriber's signature	Print your name	Contact	Pharmacy

Revised prescription is valid until this chart is completed unless ceased earlier

Route	Drug (print 'ketamine')	Amount (mg)	Diluent	Total Volume (mL)	Concentration
			Sodium chloride 0.9%		(mg per mL)

Infusion start rate: .....mg per hour = ...mL per hour
Infusion range (if applicable): **FROM**: .....mg per hour = ...mL per hour **TO**: .....mg per hour = ...mL per hour

Date	Prescriber's signature	Print your name	Contact	Pharmacy

CEASE KETAMINE ACCORDING TO INSTRUCTIONS IN THE MEDICAL RECORD
Refer to entry in the medical record written on Date:..... Time:.....

Page 2 of 8 NO WRITING

The Australian Pain Society"

Patient allergy status and patient label

Ketamine prescription:
- Route
- Amount
- Diluent
- Total volume
- Concentration
- Infusion start rate
- Infusion range (if used)
- Date, prescriber, pharmacy

Three revised prescription options for alterations to ketamine prescription

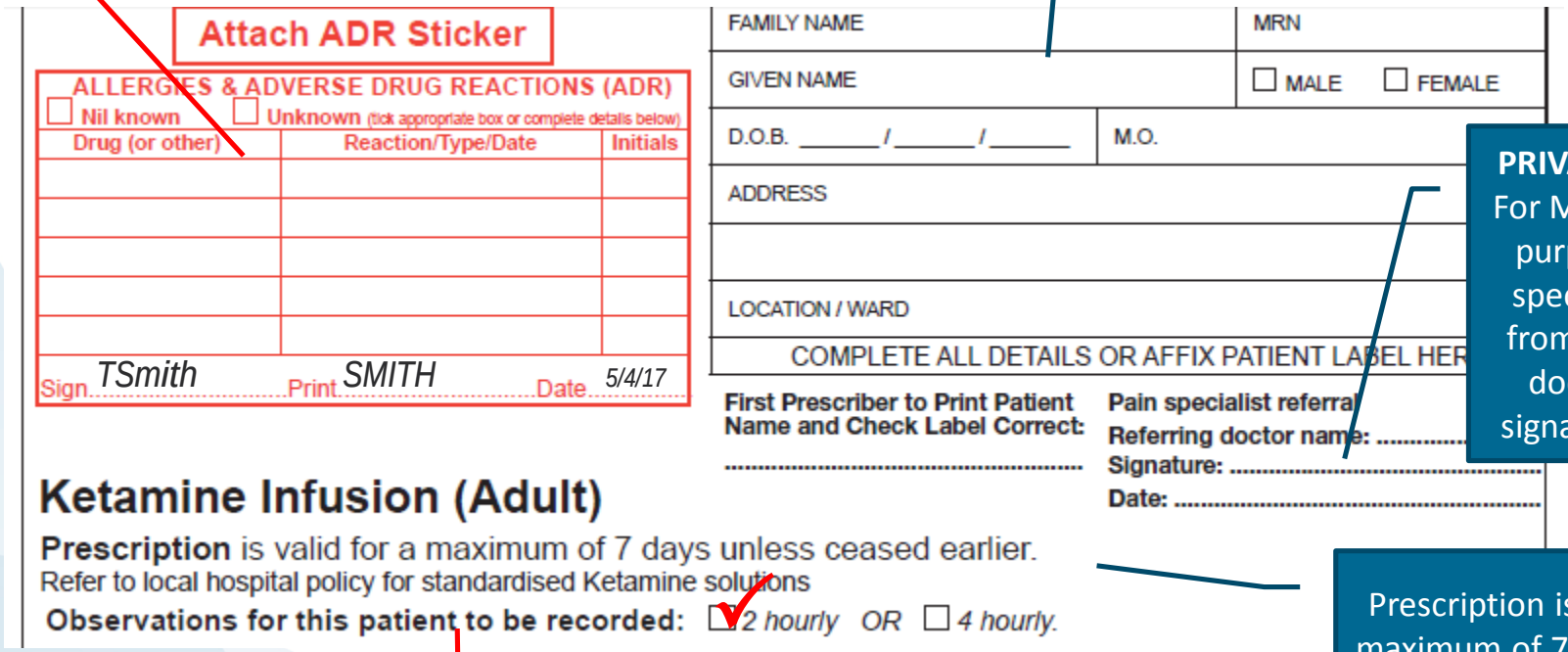
CEASE instructions

ACI NSW Agency for Clinical Innovation

Prescription: Patient identification

Prescriber to complete patient allergy and ADR section in full

Handwritten patient details or affix patient label
(First prescriber to check patient label is correct)



Attach ADR Sticker

ALLERGIES & ADVERSE DRUG REACTIONS (ADR)
☐ Nil known ☐ Unknown (tick appropriate box or complete details below)

Drug (or other)	Reaction/Type/Date	Initials

Sign TSmith Print SMITH Date 5/4/17

FAMILY NAME | MRN
GIVEN NAME | ☐ MALE ☐ FEMALE
D.O.B. _____/_____/_____ | M.O.
ADDRESS
LOCATION / WARD
COMPLETE ALL DETAILS OR AFFIX PATIENT LABEL HER

First Prescriber to Print Patient Name and Check Label Correct:
.....

Pain specialist referral
Referring doctor name: .....
Signature: .....
Date: .....

Ketamine Infusion (Adult)

Prescription is valid for a maximum of 7 days unless ceased earlier.
Refer to local hospital policy for standardised Ketamine solutions
Observations for this patient to be recorded: ☐ *2 hourly* *OR* ☐ *4 hourly.*

PRIVATE PATIENTS:
For Medicare billing purposes: A pain specialist referral from the referring doctor (name), signature and date

Prescription is valid for a maximum of 7 days unless ceased earlier

The frequency of observations
(2 hourly or 4 hourly)
to be determined by the medical officer

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Ketamine prescription:

PLEASE REFER TO YOUR LOCAL HOSPITAL POLICY OR PROCEDURE FOR PREFERRED KETAMINE DELIVERY OPTIONS

Route	Drug (print 'ketamine')	Amount (mg)	Diluent	Total Volume (mL)	Concentration
IV	Ketamine	200 mg	Sodium chloride 0.9%	50mL	4 (mg per mL)

Infusion start rate	**Infusion range** (if applicable)
4 mg per hour = 1 mL per hour	**FROM**: 4 mg per hour = 1 mL per hour **TO**: 8 mg per hour = 2 mL per hour

Date	Prescriber's signature	Print your name	Contact	Pharmacy
04/4/17	*TSmith*	SMITH	7511	

Three further prescription boxes are provided for when alterations are indicated for the ketamine dose, concentration or infusion rate.

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Administration and discard of ketamine:

Record of ketamine administration and ketamine discarded

	Record of ketamine administration				Record of ketamine discarded				
	Date	Time	Signature 1	Signature 2	Date	Time	Total ketamine discarded (mL or mg)	Signature 1	Signature 2
1	4/4/17	10:00	*THall*	*SRose*	05/4/17	10:00	8mL	BLoh	JLucas
2									

Any ketamine remaining from a syringe or bag to be recorded on the discard section

There are 13 more rows provided for more than one syringe or bag of ketamine that is commenced

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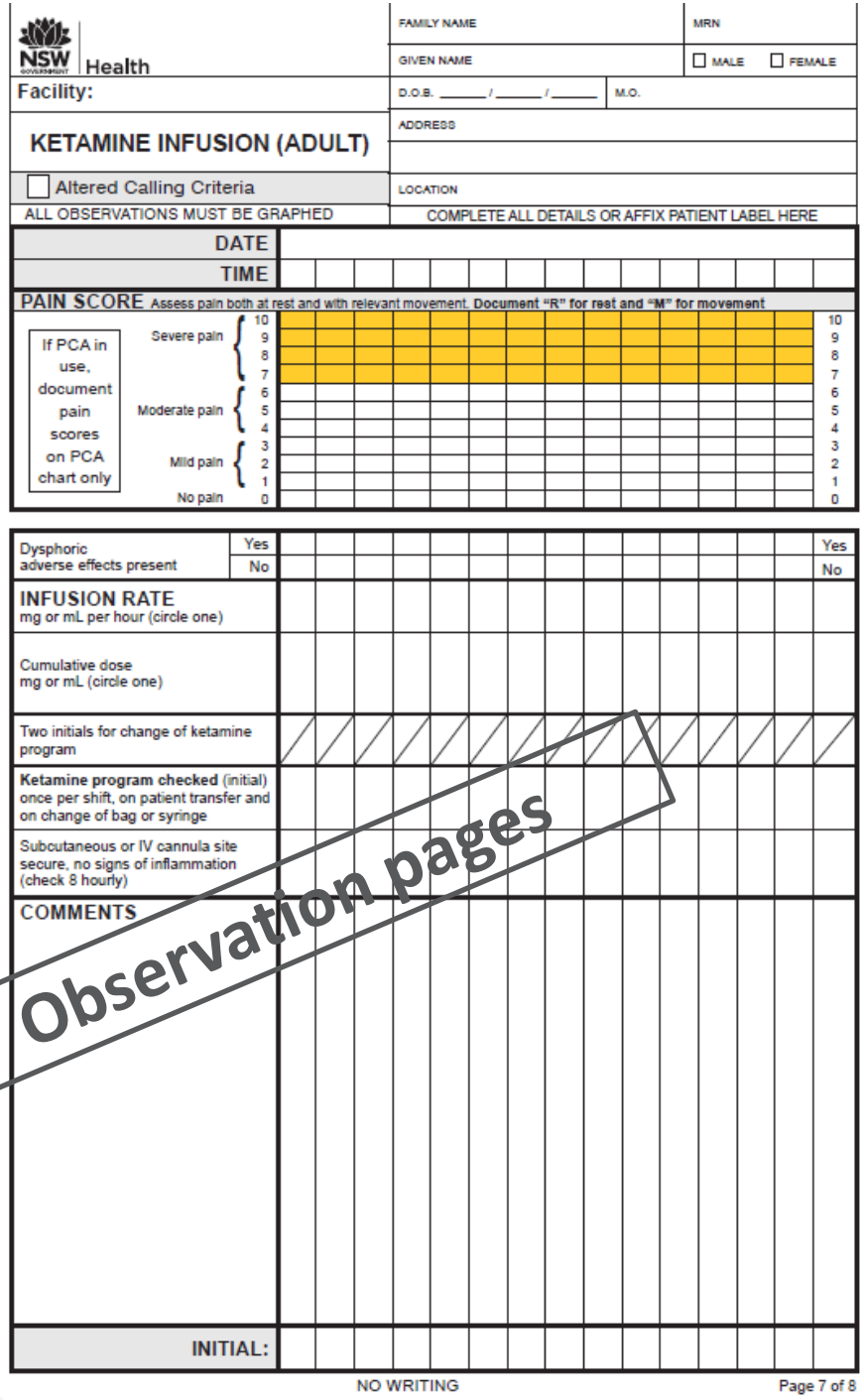
Observations

The ketamine chart can provide observations for a maximum of :

7 days when frequency of observations are 4 hourly

4 days when frequency of observations are 2 hourly

If the infusion continues beyond 4 or 7 days, a new chart must be started and a new prescription written.


NSW Health

Facility:

KETAMINE INFUSION (ADULT)

Altered Calling Criteria

ALL OBSERVATIONS MUST BE GRAPHED

FAMILY NAME | MRN

GIVEN NAME | MALE FEMALE

D.O.B. ____/____/____ M.O.

ADDRESS

LOCATION

COMPLETE ALL DETAILS OR AFFIX PATIENT LABEL HERE

DATE

TIME

PAIN SCORE Assess pain both at rest and with relevant movement. Document "R" for rest and "M" for movement

If PCA in use, document pain scores on PCA chart only

Severe pain 10 9 8 7

Moderate pain 6 5 4

Mild pain 3 2 1

No pain 0

Dysphoric adverse effects present: Yes / No

INFUSION RATE mg or mL per hour (circle one)

Cumulative dose mg or mL (circle one)

Two initials for change of ketamine program

Ketamine program checked (initial) once per shift, on patient transfer and on change of bag or syringe

Subcutaneous or IV cannula site secure, no signs of inflammation (check 8 hourly)

COMMENTS

INITIAL:

NO WRITING

Page 7 of 8

Observation pages

PAIN INTEREST GROUP NURSING ISSUES

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NSW Health

Facility:

KETAMINE INFUSION (ADULT)

☐ Altered Calling Criteria

ALL OBSERVATIONS MUST BE GRAPHED

FAMILY NAME | MRN

GIVEN NAME | ☐ MALE ☐ FEMALE

D.O.B. _____/_____/_____ | M.O.

ADDRESS

LOCATION

COMPLETE ALL DETAILS OR AFFIX PATIENT LABEL HERE

A patient label must be affixed or details handwritten on each page that has recorded observations

DATE	04/04/2017													
TIME	10 00	12 00	14 00	16 00	18 00									

PAIN SCORE Assess pain both at rest and with relevant movement. **Document "R" for rest and "M" for movement**

If PCA in use, document pain scores on PCA chart only

Severe pain 10														
9														
8														
7														
Moderate pain 6			M											
5				M										
4		M	R											
Mild pain 3					M									
2	M	R		R										
1														
No pain 0	R				R									

Pain assessment:
R = Rest, M = movement
(If a PCA chart is in use – record pain score on the PCA chart)

Yellow Zone Response:
Have pain scores previously been in the White Zone (0 to 6)?
Have additional prescribed analgesics been administered?
Has the patient been reviewed by the Acute Pain Service or equivalent Medical officer?
The assessing nurse may need to consult with the NURSE IN CHARGE to decide whether a CLINICAL REVIEW (or other CERS – Clinical Emergency Response) call should be made

Dysphoric adverse effects present	Yes / No													
INFUSION RATE mg or mL per hour (circle one)		6 mg	6 mg	8 mg	8 mg	8 mg								
Cumulative dose mg or mL (circle one)			12 mg	24 mg	40 mg	56 mg								
Two initials for change of ketamine program				SH / KL										
Ketamine program checked (initial) once per shift, on patient transfer and on change of bag or syringe		SH		SH		NH								
Subcutaneous or IV cannula site secure, no signs of inflammation (check 8 hourly)		SH				NH								
COMMENTS														

- Dysphoric adverse effects assessment
- Infusion rate
- Cumulative dose
- Ketamine pump program checked
- Subcut or IV site checked
- Comments
- Initial

The standardisation of this chart promotes best practice in prescribing, pain assessment and management of adverse effects in those patients receiving a ketamine infusion.

Comments or questions can be directed to your implementation officer or the project leaders Emily Edmonds or Jenni Johnson.

(contact details introduction slide)

The feedback register can be located on the ACI website:

http://www.aci.health.nsw.gov.au/networks/pain-management/acute-pain-forms

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