

**Subcutaneous lidocaine (lignocaine)
for refractory neuropathic pain
in the palliative care setting
SESLHDPR/694**



Title	Subcutaneous lidocaine (lignocaine) for refractory neuropathic pain in the palliative care setting
Area where Protocol/Guideline applicable	SESLHD Inpatient settings (including Calvary hospital)
Authorised Prescribers	Specialist Palliative Care Services
Indications for use	<p>Must be used under the supervision of a Palliative Care Specialist.</p> <p>Refractory neuropathic pain not responding to standard analgesic drugs, including optimal use of opioids and adjuvant therapies.</p> <p>Refractory pruritis when the oral route is no longer available</p>
Place in Therapy	Lidocaine is a systemic local anaesthetic agent and known membrane stabiliser. It is used in the palliative care setting as a third or fourth line drug in the treatment of complex & refractory neuropathic pain.
Contraindications	<ul style="list-style-type: none"> • Adams-Stokes syndrome, Wolff-Parkinson-White syndrome • Severe atrioventricular, sino-atrial or intraventricular heart block not managed with a pacemaker • Sensitivity to amide-type local anaesthetics • Patients on flecainide
Precautions & Relative Contraindications	<p>Cardiac monitoring in the palliative care setting is not indicated due to doses not exceeding the threshold of 2 grams over 24 hours via CSCI.</p> <p>Caution in patients with known cardiac disease, cerebral palsy, and history of arrhythmia.</p>
Important Drug Interactions	Avoid in patients taking flecainide
Known Adverse Effects	<p>Monitor closely for the following initial signs of systemic toxicity:</p> <ul style="list-style-type: none"> • Light-headedness, Dizziness • Perioral numbness or tingling (around lips) • Tinnitus • Metallic taste • Drowsiness and dysarthria <p>If any of the above are observed, cease infusion immediately and inform Palliative Care Medical Officer. Lidocaine infusion may be restarted at a lower dose.</p> <p>Worsening toxicity is indicated by the progressive appearance of:</p> <ul style="list-style-type: none"> • Visual changes

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Preparations	<p>Lidocaine (lignocaine) 2% 100mg/5 mL ampoules</p> <p>Lidocaine (lignocaine) 10% 500mg/5mL ampoules</p>																																																																							
Administration	<table border="1"> <thead> <tr> <th rowspan="2">DOSE of lidocaine</th> <th colspan="2">VOLUME & recommended FORMULATION of lidocaine</th> <th rowspan="2">Approx. Volume of WFI to make total volume *</th> </tr> <tr> <th>Lidocaine 2%</th> <th>Lidocaine 10%</th> <th>WFI</th> </tr> </thead> <tbody> <tr><td>100mg</td><td>5mL</td><td>-</td><td>5mL</td></tr> <tr><td>200mg</td><td>10mL</td><td>-</td><td>7mL</td></tr> <tr><td>300mg</td><td>15mL</td><td>-</td><td>2mL</td></tr> <tr><td>400mg</td><td>-</td><td>4mL</td><td>13mL</td></tr> <tr><td>500mg</td><td>-</td><td>5mL</td><td>12mL</td></tr> <tr><td>600mg</td><td>-</td><td>6mL</td><td>11mL</td></tr> <tr><td>700mg</td><td>-</td><td>7mL</td><td>10mL</td></tr> <tr><td>800mg</td><td>-</td><td>8mL</td><td>9mL</td></tr> <tr><td>900mg</td><td>-</td><td>9mL</td><td>8mL</td></tr> <tr><td>1000mg</td><td>-</td><td>10mL</td><td>7mL</td></tr> <tr><td>1100mg</td><td>-</td><td>11mL</td><td>6mL</td></tr> <tr><td>1200mg</td><td>-</td><td>12mL</td><td>5mL</td></tr> <tr><td>1300mg</td><td>-</td><td>13mL</td><td>4mL</td></tr> <tr><td>1400mg</td><td>-</td><td>14mL</td><td>3mL</td></tr> <tr><td>1500mg</td><td>-</td><td>15mL</td><td>2mL</td></tr> <tr><td>1600mg</td><td>-</td><td>16mL</td><td>1mL</td></tr> </tbody> </table> <p>For doses where the calculated volume is less than 10mL, use a 10mL syringe.</p> <p>For doses where the calculated volume is greater than 10mL, use a 20mL syringe.</p> <p>For doses of >1700mg use a 30mL syringe</p>	DOSE of lidocaine	VOLUME & recommended FORMULATION of lidocaine		Approx. Volume of WFI to make total volume *	Lidocaine 2%	Lidocaine 10%	WFI	100mg	5mL	-	5mL	200mg	10mL	-	7mL	300mg	15mL	-	2mL	400mg	-	4mL	13mL	500mg	-	5mL	12mL	600mg	-	6mL	11mL	700mg	-	7mL	10mL	800mg	-	8mL	9mL	900mg	-	9mL	8mL	1000mg	-	10mL	7mL	1100mg	-	11mL	6mL	1200mg	-	12mL	5mL	1300mg	-	13mL	4mL	1400mg	-	14mL	3mL	1500mg	-	15mL	2mL	1600mg	-	16mL	1mL
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Diluents	Water for Injection (WFI)																																																																							
Drug Compatibility	Lidocaine should not be mixed in a syringe with any other medication due to lack of robust compatibility data. Lignocaine may be given in conjunction with ketamine but NOT in same syringe driver.																																																																							

Dosing	<p>Lidocaine has a narrow therapeutic index and dose is determined by consultation with Palliative Care Specialist.</p> <p>Starting dose: Lidocaine 100mg - 400mg over 24 hours via continuous subcutaneous infusion (CSCI)</p> <p>Increase by 50-200mg every 24 hours as required; titrate to effect.</p> <p>Usual maximum dose is 1,800mg per 24 hours but higher doses have been used.</p>
Monitoring requirements	<p>Monitor for signs of adverse effects (as above) and if any of the initial signs of toxicity occur cease the infusion and report to the Palliative Care consultant immediately. Perform 4-hourly subcut infusion site checks as per Subcutaneous Syringe Driver inpatient management form SES130.021</p>
Practice Points	<p>Lidocaine is only given by continuous subcutaneous infusion via syringe driver. It is NOT to be given by intermittent bolus subcutaneous injections.</p>
Basis of Protocol/Guideline (including sources of evidence, references)	<p>Palliative Care Formulary 7th Ed, 2020 p77-80 Therapeutic Guidelines – Palliative Care eTG, July 2018 CHCK Policy 'Pain Management (Neuropathic – Lignocaine & Ketamine). September 2018 Dickman A, Schneider J. 2016 The syringe driver: continuous subcutaneous in palliative care. Oxford University Press; 2016 Macleod, R Macfarlane, S. 2018 The Palliative Care Handbook. 9th Ed. Hammondcare Media.</p>
Consultation	<p>St George Palliative Care Team SESLHD Palliative Care working party Dr Caitlin Sheehan, Staff Specialist St George & Calvary Hospital</p>

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GOVERNANCE

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Chairperson, QUM Committee	Dr John Shephard
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