HALF LIFE (hours)	DURATION (hours)
1.5-2	3-7
3-4	4-6
2-3	4-5
15-90 (N.B. Huge Variation)	6-12
13-22 (patch)	48-72 (patch)
3.3 - 4.5	4-6

GUIDELINES

1. Evaluate pain on all patients using a 0 -10 Numeric Scale or developmentally appropriate scale (eg. FACES-R, Revised FLACC)
   A. Mild pain: 1 – 3
   B. Moderate pain: 4 – 7
   C. Severe pain: 8 – 10
2. For chronic moderate or severe pain:
   A. Give baseline medication around the clock
   B. Order 10% total daily dose as a PRN given q 1-2h for oral and q 30-60 min for SC/IV
   C. For continuous infusion, PRN can be either the hourly rate q 15 minutes or 10% of total daily dose q 30-60 minutes.
   D. Adjust baseline upward daily in amount roughly equivalent to total amount of previous day's PRNs
   E. Negotiate with patient/family to target level of relief, but usually at least achieving level pain score <4.
3. In general, oral route is simplest/preferable, then transcutaneous > subcutaneous > intravenous. Determine route as appropriate for situation/acurity and type of pain
4. When converting from one opioid to another, some experts recommend reducing the equianalgesic dose by 1/3 to 1/2, then titrate as in #2 above.
5. Infants < 6 months or those with severe renal or liver disease, should start on 1/4 to 1/2 the usual starting dose.
6. If parenteral medication is needed for mild to moderate pain, use half the usual starting dose of morphine or equivalent.
7. Naloxone (Narcan) should only be used in emergencies:
   Dilute naloxone (0.4 mg/ml) 0.1 mg (0.25 ml) with 9.75 ml NS (final strength 10 mcg/ml)
   Give 2 mcg/kg IV, repeat q2minutes for total of 10mcg/kg
   Monitor patient q15 minutes for at least 90 minutes
   May need to repeat naloxone again in 30-60 minutes
8. Short-acting preparations should be used acutely & post-op. Switch to long-acting preparations when pain is chronic and the total daily dose is determined.
9. Administering opiods to children <24 months:
   A. **Infants < 6 months:** place on apnea/bradycardia monitor and pulse oximeter
   B. **Infants/children 6 months - 24 months:** place pulse oximeter (also consider for children with developmental disabilities, h/o prematurity and known respiratory difficulties)
10. These guidelines do not apply to infants in the NICU. Please refer to NICU pain management guidelines.

Information adapted from Facts and Comparisons 1997 and APS Principles of Analgesic Use in the Treatment of Acute Pain and Cancer Pain (4th Ed.) 1999.

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Equianalgesic Table for Pediatrics

Half-life, Duration, Dosing and Guidelines

(Tailor care to individual needs.)

Community Principles of Pain Management for Children

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Additional pain management resources are available at CompassionAndSupport.org

Compassion and Support

CompassionAndSupport.org

MEDICATION	EQUIANALGESIC DOSE (for chronic dosing)		USUAL STARTING DOSES Pediatric patients < 40kg and age > 6 months (decrease dose by 1/4 to 1/2 for age < 6 months or severe renal or liver disease)		COMMENTS (Not all dosage forms are available for inpatients, consult pediatric pharmacy for availability)	PAIN
	IM/IV onset 15-30 min	PO onset 30-60 min	PARENTERAL	PO		
MORPHINE	10 mg	30 mg	0.05 - 0.1 mg/kg/dose q 2-4 hrs	0.2 - 0.5 mg/kg/dose q 3-4 hrs	Oral Solution (2 mg/ml); Concent. oral solution (20 mg/ml) can be given buccally In some post-op patients, up to 0.2mg/kg IV may be required as an initial IV dose IR tablets (15, 30 mg) ER tablets (15, 30, 60, 100, 200 mg) q8-12h (MS Contin) ER capsules(10,20,30,50,60,70,80,100,130,150,200) q12-24h (Kadian) ER capsules (30,45,60,75,90,120) q24h (Avinza) **Not recommended in renal failure**	MODERATE TO SEVERE
OXYCODONE	Not Available	20 mg	Not Available	0.1-0.2 mg/kg/dose q 3-4h	Oral solution (5mg/5ml); Concentrate (20mg/ml) can be given buccally IR capsule (5mg); IR tablets (5,10,15,20,30) ER tablets (10,15,20,30,40,60,80) q8-12h (Oxycontin)Designed with abuse-deterrant properties Combos available with acetaminophen or ibuprofen (generally not recommended) **Not enough literature regarding dosing in renal failure. Use with caution.**	
HYDROMORPHONE	1.5 mg	7.5 mg	0.015 mg/kg/dose q 3-4h	0.03-0.08 mg/kg/dose q 3-4h	Oral Solution (1mg/ml); Suppository (3mg); Tablets (2,4,8mg) ER tablets (8,12,16,32mg) - Designed with abuse-deterrent properties **Use carefully with renal failure.**	
METHADONE (see text for dosing conversions)	1/2 oral dose 2mg PO methadone = 1mg parenteral	24 hour oral morphine / Oral morphine: methadone ratio < 30 mg — 2:1 31-99 mg — 4:1 100-299 mg — 8:1 300-499 mg — 12:1 500-999 mg — 15:1 1000-1200 mg — 20:1 > 1200 mg — consider consult	Consult Pediatric Supportive (Palliative) Care or Anesthesia Pain Service	Consult Pediatric Supportive (Palliative) Care or Anesthesia	Oral Solution (1mg/ml, 2mg/ml); Concentrate (10 mg/ml) Tablets (5,10mg); Usually q12h or q8h; Long variable t½ and high interpatient variability; Small dose change makes big difference in blood levels; Tends to accumulate with higher doses, always advise "hold for sedation" **Because of long half-life, do not use methadone prn unless experienced** Many drug interactions with commonly used medications When converting from oral to parenteral, decrease dose by HALF for safety; When converting from parenteral or oral, keep dose the same **Acceptable with renal disease**	
FENTANYL	100 mcg (single dose) t 1/2 and duration of parenteral doses variable	24 hour MS dose / Initial patch dose 30-59 mg — 12 mcg/hr 60-134 mg — 25 mcg/hr 135-224 mg — 50 mcg/hr 225-314 mg — 75 mcg/hr 315-404 mg — 100 mcg/hr	0.5 - 2 mcg/kg/dose q 30-60 minutes	Consult Pediatric Supportive (Palliative) Care or Anesthesia Pain Service	Transdermal patch (12,25,50,75,100mcg); If transitioning from IV Fentanyl to patch, the hourly rate is the patch dose; eg. if patient is on 50mcg/hr IV, start with a 50mcg patch Buccal film (200-1200mcg), Buccal tablet (100-800mcg), Nasal solution (100 & 400mch/act), SL tablet (100-800mcg), Lozenge (200-1600mcg); SL spray (100-1600mcg) Indicated for breakthrough cancer pain only **NB: Incomplete cross-tolerance already accounted for in conversion; when converting to other opioid from fentanyl, generally reduce equianalgesic amount by 50%** IV: very short acting; associated with chest wall rigidity if given quickly or in high dose. **Acceptable in renal failure, monitor carefully if using long term**	
HYDROCODONE	Not available	30 mg	Not Available	0.2 mg/kg/dose q 4-6h	APAP combo tablets - 2.5-10mg hydrocodone with 300-325mg APAP; APAP combo solution - 2.5mg hydrocodone with 108mg APAP per 5ml IBU combo tablets - 2.5-10mg hydrocodone with 200mg ibuprofen ER tablets (10, 15, 20, 30, 40, 50mg) – Not an abuse-deterrent formulation **Monitor total acetaminophen or ibuprofen dose**	MILD TO MODERATE