PRINCIPLES OF PAIN MANAGEMENT: ADULT GUIDE

Assessment and Diagnosis

All patients should be screened for pain. Once identified, a complete assessment, including physical, emotional, and spiritual components is necessary to determine cause of pain and appropriate therapy.

History: Assess

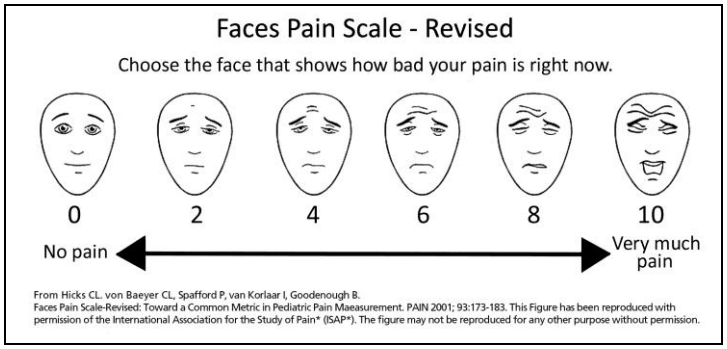
- Onset, location, quality, intensity, temporal pattern, aggravating and alleviating factors, associated symptoms
- Characteristics of pain*
- Previous methods of treatment
- Other medical and surgical conditions
- Substance use

Psychosocial History: Assess

- Depression, anxiety, PTSD, sleep pattern **, suicide risk
- Impact on quality of life, ADL's & performance status***
- Patient, family, and caregiver's cultural and spiritual beliefs
- Secondary gain: psychosocial/financial

Assessment:

- **Order and evaluate appropriate diagnostic testing**
- Evaluate pain on all patients using the 0-10 scale:
  A. mild pain: 1-3
  B. moderate: 4-7 (interferes with work or sleep**)
  C. severe: 8-10 (interferes with all activities***)



Diagnostic Terms:
***Somatic pain**: localized; ache, throb, or gnaw
***Visceral pain**: often referred; cramp, pressure, deep ache, squeeze
***Neuropathic pain**: burns, electric shock, hot, stab, numb, itch, tingle
Cancer pain: associated with cancer, HIV
Non-cancer pain: e.g. arthritis or musculoskeletal disorders
Acute Pain: ↑HR, HBP, diaphoresis, pallor, fear, anxiety
Chronic pain: sleep difficulties, loss of appetite, psychomotor retardation, depression, career/relationship change
*** interferes with work or sleep, **** interferes with all activities*

Treatment

Goals:

- **Rx acute pain aggressively to avoid chronic pain**
- **Rx chronic pain thoughtfully and systematically**
- Identify and address the cause of pain
- Maintain alertness, ability to function safely/ productively
- Allow emergence of emotions associated with pain
- Negotiate target pain level with patient

Non-Pharmacological Therapy

- Patient / Family Education
- Cognitive Behavioral Therapy; Supportive Counseling
- Chiropractic Care; Osteopathic Manipulation; Massage
- Physical Therapy/Exercise/Strength/Flexibility
- Cutaneous Stimulation: Ice, Heat
- Counterstimulation: TENS
- Acupuncture & Acupressure (trigger point Rx)
- Relaxation Techniques: Biofeedback, Music, Hydrobath
- Meditation, Prayer, Spiritual & Pastoral Support
- Visualization/Interactive Guided Imagery

Pharmacological Therapy:

- Use WHO/AHCPR step care as "ramp" [See reverse side]
- Use adjuvant therapies prn [See reverse side]
- Avoid Demerol® (meperidine)
- Use care with combinations (consider total consumption of APAP from multiple Rx and OTC sources)
- Use ONE short acting med for acute pain exacerbation
- Switch to ONE long acting med when pain stabilized
- Avoid multiple agents of similar duration

For chronic moderate or severe pain:

- Give baseline long acting med around the clock
- For breakthrough, give 10% of total daily dose as prn
- PRN interval: 1-2 h oral, and 30-60 min parenteral
- Adjust baseline upward daily by total amount of prns
- When converting from one opioid to another, reduce total dose by 1/3-1/2 to account for incomplete cross tolerance

Adjunct Therapy/Anticipate side effects:

- Prevent constipation: start senna, sorbitol
- Nausea: Tx with antiemetics or change meds
- Pruritus: Tx with antihistamines or change meds
- Myoclonus: Tx with benzodiazepine or change meds
- Mental impairment: avoid driving/hazardous situations until side effect profile stabilizes; reassess safety for self/others periodically

Management and Monitoring

General

- **Reassess regularly**
- Measure "5th vital sign" **using tools** (i.e. numeric scale, face scale); respond urgently to pain 8 or more
- Follow amount and duration of response
- Assess performance status
- Partner with patient/family in setting goals of care
- Balance function vs. complete absence of pain

Referrals and Management

For acute pain:

- Refer early to appropriate specialist or Pain Center, if diagnosis unclear or pain refractory to treatment

For chronic pain:

- Refer "difficult to treat" cases to MD with Palliative Care expertise: H/O substance abuse, neuropathic pain, rapidly escalating opioid doses
- Set realistic chronic care goals
- Transition from passive recipient to patient-directed management of therapies.

For neuropathic Pain

- Use anti-epilepsy drugs (AED's) first
- Use step 2 or 3 drug to help Rx

SPECIAL SITUATIONS:

Anxiety and depression

- Refer to Depression Principles

Verbally Noncommunicative Patients

- Infants, children & cognitively impaired all feel pain
- Evaluate patient's non-specific signs: noisy breathing, grinding teeth, bracing, rubbing, crying, agitation

Elderly/ renal or hepatic disease

- Start at ½ usual dose
- Watch carefully for toxicity from accumulation

Patients with substance abuse history

- May need higher starting dose (tolerance)
- Use prescribing contracts for outpatient use

Be Aware of Potential for Addiction & Misuse

- Encourage established functional goals
- Ensure follow-up

Guidelines and principles are intended to be flexible. They serve as reference points or recommendations, not rigid criteria. Guidelines & principles should be followed in most cases, but there is an understanding that, depending on the patient, the setting, the circumstances, or other factors, care can and should be tailored to fit individual needs. Approved 5/ 15 /12; Next Scheduled Update by 5/14

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Step 1: Treatment of Mild Pain (Score of 1-3)

Drug Class	Practical Considerations
Acetaminophen (APAP)	NOT anti-inflammatory; maximum 4 grams/24 hours from all sources; leading cause of acute liver failure (including accidental overdose); monitor for severe liver injury & acute renal failure; potential for allergic reaction
Salicylates (ASA)	Inhibits platelet aggregation; possible post-op bleeding; hepatic/renal impairment; GI ulcers; increased risk of bleeding with warfarin; monitor level (150-300 mcg/ml)
Non-steroidal anti-inflammatory	Assess risk of nephrotoxicity, drug interactions, and GI toxicity prior to prescribing; administer with PPI if GI intolerance or high risk; topical agents may be appropriate for individuals unable to use oral therapy
Cox-2 anti-inflammatory	Caution in pts with cardiovascular disease or at risk for CV disease; avoid Celebrex with known sulfa allergy; use if contraindication or severe intolerance to NSAID

Step 2: Treatment of Moderate Pain (Score 4-7), pain not alleviated with medicine from Step 1, and/or if pain worsens

Drug Class	Practical Considerations
Codeine /APAP; Oxycodone/ASA or APAP; Hydrocodone/APAP	Total dose limited by APAP(maximum 4 grams/24 hours); lower threshold for elderly, counsel about additive APAP in over-the-counter medications
Tramadol; Tramadol with APAP	Not 1st line; risk of seizures (↑ risk with higher doses and combination with SSRI/TCA); withdrawal symptoms can occur; risk of serotonin syndrome when combined with SSRIs
Tapentadol	Dual mechanism – mu agonist/norepinephrine reuptake inhibitor; Risk of serotonin syndrome when combined with serotonergic drugs; Maximum dose: IR 600mg/day, ER 500mg/day

Step 3: Opioid Treatment of Moderate – Severe Pain (Score 4-10), pain not alleviated with medicine from Step 2; Using Equianalgesic Dosing

MEDICATION	EQUIANALGESIC DOSE IM/IV (onset 15-30 min)	EQUIANALGESIC DOSE PO (onset 30-60 min)	USUAL STARTING DOSES for ADULT>50kg[a] PARENTERAL ♦ ½ dose for elderly, or severe renal or liver disease	USUAL STARTING DOSES for ADULT>50kg[a] PO ♦ ½ dose for elderly, or severe renal or liver disease	COMMENTS
Morphine	10 mg	30 mg	2.5-5 mg SC/IV q3-4h (♦ 1.25-2.5 mg)	5-15 mg q3-4h IR or oral solution (♦ 2.5-7.5 mg)	IR tablets (15,30mg); Rectal suppository (5,10,20,30mg) Oral solution (2mg/ml, 4mg/ml); Concentrate (20mg/ml) can give bucally; Morphine ER tablets (15,30,60,100,200mg) q8-12h Kadian ER capsules (10,20,30,50,60,80,100,200mg) q12-24h Avinza ER capsules (30,45,60,75,90,120mg) Q24h **Not recommended in renal failure**
Oxycodone	Not Available	20 mg	Not Available	5-10 mg q3-4h IR or oral solution (♦ 2.5 mg)	IR capsule (5mg); IR tablet (5,10,15,20,30mg) Oral Solution (5mg/5ml); Concentrate (20mg/ml) Oxycontin (10,15,20,30,40,60,80mg) – Due to high cost and potential for abuse, use only if failure or contraindication to morphine sulfate ER APAP Combo - 2.5–10mg oxycodone combined with 325–650mg APAP; **(combos generally not recommended)** Ibuprofen combo and ASA combo also available **(combos generally not recommended)** **Not enough literature regarding dosing in renal failure. Use caution.**
Hydromorphone	1.5 mg	7.5 mg	0.2-0.6 mg SC/IV q2-3h (♦ 0.2 mg)	1-2 mg q3-4h (♦ 0.5-1 mg)	Tablet (2,4,8mg); ER tablet (8,12,16mg) Oral liquid (1mg/ml), Suppository (3mg) **Use carefully in renal failure**
Methadone (see separate sheet with detail dosing information)	1/2 oral dose 2mg PO methadone = 1mg parenteral methadone	24hr morphine / methadone ratio: <30mg 2:1 31-99mg 4:1 100-299mg 8:1 300-499mg 12:1 500-999mg 15:1 1000-1200mg 20:1 > 1200mg Consider consult	1.25-2.5 mg q8h (♦1.25 mg)	2.5-5 mg q8h (♦1.25-2.5 mg)	Tablet (5,10mg) Solution (1mg/ml, 2mg/ml); Concentrate (10mg/ml) Usually q12h or q8h; Long variable T½; **Acceptable with renal disease** Small dose change makes big difference in blood level; tends to accumulate with higher doses; always write "hold for sedation" Because of long half-file, do not use methadone prn unless experienced Many drug interactions with commonly used medications When converting from oral to parenteral, cut dose in half for safety When converting from parenteral to oral, keep dose the same
Fentanyl	100 mcg (single dose) t ½ and duration of parenteral doses variable	24 hr oral MS dose / Initial patch dose: 30-59mg 12mcg/hr 60-134mg 25mcg/hr 135-224mg 50mcg/hr 225-314mg 75mcg/hr 315-404mg 100mcg/hr	25-50 mcg IM/IV q1-3h (♦ 12.5-25 mcg)	Transdermal patch 12 mcg/hr Q72h (use with caution in opioid naïve and in unstable patients because of 12 hour delay in onset and offset)	Transdermal patch (12,25,50,75,100mcg) – Due to its high potency and potential for overdose or abuse, use only if failure or contraindication to morphine sulfate ER in the primary care setting **N.B. Incomplete cross-tolerance already accounted for in conversion to fentanyl; when converting to other opioid from fentanyl, generally reduce the equianalgesic amount by 50%** IV: very short acting; associated with chest wall rigidity. Acceptable in renal failure, monitor carefully if using long term. Bucacal film (200-1200mcg), Buccal tablet (100-800mcg), Nasal solution (100 & 400 mch/act), SL tablet (100-800mcg), Lozenge (200-1600mcg); **Indicated for breakthrough cancer pain only**
Codeine	130 mg	200 mg	15-30 mg IM/SC q4h (♦ 7.5-15 mg) IV contraindicated	30-60 mg q3-4h (♦ 15-30 mg)	Tablet (15,30,60mg); Elixir 12mg and 120mg APAP/5ml Tylenol #3 (30mg w/ 300mg APAP); Tylenol #4 (60mg w/ 300mg APAP) Monitor total acetaminophen dose
Hydrocodone	Not Available	30 mg	Not Available	5 mg q3-4h (♦ 2.5 mg)	Tablet – multiple brand and generic strengths ranging from 2.5-10mg combined with APAP; Elixir 2.5mg and 167mg APAP/5ml Tablet – with ibuprofen (7.5/200mg) Monitor total acetaminophen or ibuprofen dose
Oxymorphone	1 mg	10 mg	1-1.5 mg IM/SQ q4-6h (♦ 0.5 mg)	10mg q4-6h IR tablet (♦ 5 mg)	Tablet: IR: 5,10mg ER: 5,10,20,30, 40mg **Use carefully in renal failure**

[a] – "Usual starting doses" apply to opioid naïve patients, not for patients who have been on opioids and whose starting dose should take their usual consumption into account.

Adjuvant Therapies

Therapeutic Class / Drug Name	Indication	Practical Considerations
Tricyclic antidepressants: amitriptylline, imipramine, nortriptyline, desipramine	Neuropathic pain and chronic pain	Anticholinergic effects, elderly more sensitive to adverse effects, use cautiously with comorbid C/V disease
Other antidepressants: citalopram, sertaline, fluoxetine, venlafaxine, duloxetine	Neuropathic pain and depression	May increase bleeding risk especially if combined with ASA or NSAIDs; taper dose prior to discontinuing
Anti-epilepsy: gabapentin, phenytoin, carbamazepine, pregabalin, topiramate	Neuropathic pain	Numerous drug interactions (except minimal for gabapentin and Lyrica)
Benzodiazepines: diazepam, lorazepam	Skeletal muscle spasm, akasthesia	Monitor for CNS/respiratory depression; do not stop abruptly; contraindicated in pts with narrow angle glaucoma
Anti-muscle spasticity: baclofen, cyclobenzaprine, methocarbamol	Muscle spasm	Recommended short term use for relief of acute pain; avoid in the elderly due to limited efficacy and adverse effects
Topical agents: lidocaine patch, gel	Localized Neuropathic pain	Monitor for rash or skin irritation; need to be aware of systemic absorption and maximum dosing limits
Topical agents: capsaicin cream or lotion (OTC)	Neuropathic pain, muscle/joint pain	Regular and frequent administration is essential, can cause burning sensation which is intolerable to some