

Palliative Care
Reference Guide | 2025

UPMC PALLIATIVE AND SUPPORTIVE INSTITUTE

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Palliative Care Reference Guide

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For Patients Who Can Communicate: Consider the acronym: "PQRSTUV":

P: Precipitating (and Alleviating) Factors "What makes the pain better/worse?"	
Q: Quality	"How would you describe the pain?"
R: Region or Radiating	"Where is the pain? Does it go anywhere?"
S: Severity "What is the pain (on a scale of 0 -> 10) – now/at best/at worse/on average?" *Must ask: "What level of pain is acceptable or tolerable?"*	
T: Time and Temporal "When did the pain start? How does it change throughout the day?"	
U: previous Utilization "What have you used previously?"	
V: Values	"How is this pain inhibiting your daily life?" "How is your pain inhibiting your activities?"

For Patients Who Are Cognitively Impaired, or Cannot Communicate:

e.g.: Pain Assessment in Advanced Dementia (PAIN-AD) Scale:

Parameter:	Parameter: 0 Points 1 Point		2 Points	
Breathing Normal		Occasional labored breathing. Short period of hyperventilation	Noisy, labored breathing. Long period of hyperventilation. Cheyne-stokes respirations	
Negative Vocalization None Occasional moan or groan. Low level speech with negative or disapproving quality		Repeated troubled calling out. Loud moaning or groaning. Crying		
Facial Expression Smiling or inexpressive Sad, frightened or frowning		Facial grimacing		
Body Language Relaxed Tense, distressed pacing, or fidgeting		Rigid. Fists clenched, knees pulled up. Pulling or pushing away. Striking out		
Consolable	Consolable No need to console Distracted or reassured by voice or touch		Unable to console, distract, or reassure	
		TOTAL:	Provides Approx. Severity Score: 0-3: Mild Pain; 4-7: Moderate Pain; 8-10: Severe Pain	

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References: Chalkley AJ, Mulhall DJ. The PQRSTUV: The Personal Questionnaire Rapid Scaling Technique. Br J Clin Psychol. 1991 May;30 (Pt 2):181-3. Warden V, Hurley AC, Volicer L. Development and psychometric evaluation of the Pain Assessment in Advanced Dementia (PAINAD) scale. J Am Med Dir Assoc. 2003 Jan-Feb;4(1):9-15.

Adjuvant and Non-Opioid Agents for Pain

Based on Perceived Etiology of Pain:

	Class or Drug	Starting Dose/Route	Maximum Daily Dose (MDD) and Duration	Comments	
	APAP	650mg PO/PR q4h	MDD: 3-4,000mg; 2,000mg/day for those with hepatic impairment	Lacks anti-inflammatory effects of NSAIDs	
	Acetaminophen	1000mg IV q6h	IV Duration: ≤2 doses per UPMC policy	Avoid in severe hepatic disease	
		Ibuprofen 400mg PO q8h	• MDD: 3,200mg		
		Naproxen 250mg PO q12h	• MDD: 1,250mg	Caution in patients with gastric disease, renal impairment, decompensated heart failure, liver	
Pain	Common NSAIDs	Ketorolac 15-30mg IM/IV/PO q6h	MDD: 120mg. Elderly, renally impaired, and/or weight <50kg/dose = 10-15mg IM/IV Max Therapeutic Duration: 3-5 days	impairment or at risk for bleeding. Use not recommended in CrCl < 30	
		COX-2 Selective			
ptive			Celecoxib 100-200mg PO BID	MDD: 400mg/day	Caution in patients with renal impairment,
Nociceptive Pain		Meloxicam 7.5-15mg PO daily	MDD: 15mg/day	decompensated heart failure, or at risk for bleeding; Use not recommended in CrCl < 30	
Ž	Common Steroids*	Dexamethasone 4-8mg/day	MDD: 8mg/day. Short courses are advised (< 2 weeks)	Use with caution in patients with heart failure, risk of bleeding, or on immunotherapy. Use in close coordination with primary teams.	
	Common	Lidocaine 4 or 5% Patch 1-3 patches topically daily	MDD: 3 patches/day	Typically removed after 12 hours of administration to avoid toxicity. Do not use heating pad on patch to avoid skin reactions.	
	Topicals	Diclofenac 1% Gel 2-4g topically to painful area	MDD: 32g/day	Dosage card for patients included in packaging. 2g for upper extremities, 4g for lower extremities. Minimal systemic absorption.	

^{*}limited to most used in the palliative care setting

References: UPMC Policy and Procedure Manual: Pain Management Policy (HS-NA0408). Available on UPMC infonet.

Adjuvant and Non-Opioid Agents for Pain (cont.)

Based on Perceived Etiology of Pain:

	Class or Drug	Starting Dose/Route	Maximum Daily Dose (MDD) and Duration	Comments	
	Anti-	Gabapentin 300mg PO at bedtime	MDD: 3,600mg No additional benefit seen >1800mg/day	Reduce dose in renal insufficiency (CrCl <60mL/min) Post-dialysis supplementation dose recommended	
	epileptics	Pregabalin 75- 150mg/day in 2-3 divided doses	MDD: 450mg-600mg/day depending on indication	Reduce in renal insufficiency (CrCl < 60mL/min). Use with caution in patients with congestive heart failure	
Venlafaxine 37.5mg • MDD: 300r XR PO once daily • No addition	MDD: 300mg/day No additional benefit seen >150mg/day	Reduce dose in mild and moderate renal insufficiency Avoid in severe renal and hepatic insufficiency			
Neuropathic Pain	SNRIs	Duloxetine 30mg PO once daily	MDD: 90mg/day No additional benefit seen > 60mg/day	Avoid in severe renal insufficiency Contraindicated in hepatic insufficiency	
Neuro	Common 25mg PO daily indication .		, , ,	adults. QTc prolongation risk	
	TCAs	Nortriptyline 10- 25mg PO daily	• MDD: 150mg/day	Anticholinergic side effects; QTc prolongation risk Reduce dose in severe hepatic impairment	
	Common Topicals	Capsaicin 0.075%- 0.1% cream • MDD: 4 patches in one application, Cream can be used up to 4x/day • Do not apply on damaged or broken skin external heat source (e.g. heating pad) • Minimal systemic absorption		external heat source (e.g. heating pad)	

Principles of Opioid Therapy

Initiating Opioids:

	Are opioids appropriate for the patient's specific pain(s)? Some types of pains do not respond well to opioids
Appropriate?	Always screen patients for risk factors for opioid misuse upon initiation of opioid therapy. <i>Must check PA PDMP*</i> Can also consider utilizing the Opioid Risk Tool (ORT)
Adjuvants? Adjuvants should always be considered for pain. See page 3 for more information	

Throughout Opioid Therapy: Monitor for the 4As

Analgesia	Has the current medication regimen improved the patient's pain scores?			
Activity	What is the patient's specific goal? This may not be just a reduction in severity. Consider functional goals as well			
ADRs	Is the patient experiencing any opioid-induced effects? Must ask the patient about each potential effect individually			
Abuse	Screen for abuse: • Personal or family history of alcohol, tobacco or substance abuse • Younger age (less than 35 years of age) • Psychiatric disease such as anxiety, bipolar disorder, PTSD; particularly if uncontrolled Red flags suggesting opioid misuse: • Asking for specific opioid medication/formulation/brand, or for early refills or early prescriptions; inability to control use; inappropriate urine drug screen results (negative for prescribed substances or positive for non-prescribed substances) • Receiving prescriptions from different providers* Must check PA-PDMP prior to every opioid prescription * Pennsylvania PDMP website: https://pdmp.health.pa.gov/cas/login			

Principles of Opioid Therapy (cont.)

Initiating Opioids:

- 1. Determine drug:
 - Morphine is considered first-line therapy. Consider for all patients (except for renal failure and true allergy)
- 2. Determine dose:
 - Start low and go slow
 - Be aware of commercially available oral formulations
- 3. Determine **route**:
 - PO route is preferred. IM route is not recommended
- 4. Determine **frequency**:
 - Never use long-acting opioids to control acute pain
 - For opioid naïve patients, only prescribe short-acting agents as needed (PRN)

Titrating Opioids:

- Titrate no faster than every 24 hours
 - First, calculate previous 24 hour OME total
 - If response is inadequate consider increasing 25-50% for moderate pain and 50-100% for severe pain
 - If adding a long-acting agent: Give ~2/3 of total OME as long-acting. Give 10-15% of total daily long-acting agent OME as short acting breakthrough agent (PRN).
 Recommended interval for breakthrough dose is 3-4hours.

Rotating Opioids:

Primary reasons to rotate opioids are: presence of intolerable adverse drug reaction or drug allergy and/or renal failure, and insurance coverage and/or cost issues

Converting Opioids:

- 1. Assess patient
- 2. Determine total daily dose of opioid
- 3. Decide new opioid and route; consult equianalgesic table and calculate new opioid dose

mg of current opioid (& route) = equivalent mg current opioid (& route)

"X" mg of **new** opioid (& route) equivalent mg **new** opioid (& route)

- Consider cross-tolerance when rotating to a different opioid (reduce new dose by 25-50%)

4. Individualize based on assessment and monitor

Tapering Opioids:

- Reduce opioid dose by 5-20% each week or month
- Once at the lowest commercially available formulation, either increase the interval between doses or reduce the dose every 2-5 days

OME = oral morphine equivalent

References: Berna C, Kulich RJ, Rathmell JP. Tapering long-term opioid therapy in chronic noncancer pain: Evidence and recommendations for everyday practice. Mayo Clin Proc. 2015 Jun;90(6):828-42.

Dowell D, Compton WM, Giroir BP. Patient-centered reduction or discontinuation of long-term opioid analgesics: The HHS Guide for Clinicians. JAMA. 2019 Nov19;322(19):1855-1856.

Select Opioid Products

COMMONLY AVAILABLE OPIOID FORMULATIONS*

*Not all inclusive, does not include intravenous. Check with pharmacy for availability and patient's insurance for coverage. Prior authorizations may be required for opioid prescriptions.

Opioid	Short Acting (mg)	Long Acting (mg)
Morphine	Tabs (15, 30) MSIR® Oral Solution (10mg/5mL, 20mg/5mL, 20mg/mL) §	MSContin ® Tabs (15, 30, 60, 100, 200)
Oxycodone	Roxicodone®, Tabs (5,10,15,20,30) Roxicodone® Oral Solution (5mg/5mL) RoxyBond® Tabs (15, 30) OxyFAST®, Oxydose®, Roxicodone® Intensol Oral Concentrate (20mg/mL) § Endocet®, Percocet® Tabs (oxycodone/APAP) (2.5/325, 5/325, 7.5/325, 10/325)	OxyContin® Tabs (10, 15, 20, 30, 40, 60, 80) Xtampza ER® Caps (9, 13.5, 18, 27, 36)
Hydromorphone	Dilaudid® Tabs (2, 4, 8) Dilaudid® Oral Solution (1mg/mL) §	Exalgo ® Tabs (8, 12, 16, 32)
Oxymorphone	Oxymorphone IR Tabs (5, 10)	Oxymorphone ER Tabs (5, 7.5, 10, 15, 20, 30, 40)
Fentanyl	8	Duragesic ® Transdermal Patch (12, 25, 37.5, 50, 75, 100 <u>mcg/hr</u>)
Buprenorphine	8	Butrans ® Transdermal Patch (5, 7.5, 10, 15, 20 <u>mcg/hr</u>) Belbuca ® Buccal Film (75, 150, 300, 450, 600, 750, 900 <u>mcg</u>)
Codeine	Tabs (15,30)	
Tramadol	Tramadol Tabs (50,100)	Ultram ER® Tabs (100, 200, 300)
Hydrocodone	Vicodin®, Lortab® Tabs (hydrocodone/APAP) (5/325, 7.5/325, 10/325)	Hysingla ER ® Tabs (20, 30, 40, 60, 80, 100, 120) Hydrocodone ER 12-hour Tabs (10, 15, 20, 30, 40, 50)

Brand Name; Generic Name – most opioid preparations have generic formulations §: orders for oral solutions must include drug name and strength (in mg/mL) to avoid confusion

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Opioid Equianalgesic Chart*

All opioids are compared to morphine via oral morphine equivalents (OMEs).

Opioid Agonist	Oral (mg)	Parenteral (mg)	Comments
Morphine	30	10	Not recommended for patients with renal dysfunction (CrCl <30 mL/min), as metabolites can be neurotoxic Use with caution in patients with hepatic dysfunction
Hydrocodone	30		Reduce dose in patients with severe renal and hepatic dysfunction
Oxycodone [†]	20		Reduce dose in patients with hepatic dysfunction
Hydromorphone	7.5	1.5	Use with caution in patients with hepatic dysfunction
Oxymorphone	10		Reduce dose in patients with renal dysfunction (CrCl <50 mL/min) Contraindicated in patients with moderate or severe hepatic impairment. Reduce dose with mild hepatic impairment
Fentanyl		0.1** (100mcg)	Safe in renal dysfunction Consider major interactions with CYP 3A4 inhibitors or inducers For patch conversion, see box below; Note: IV fentanyl dose/hr = transdermal fentanyl dose
Tramadol	120		Maximum daily dose: 300mg; Reduce dose in patients with severe organ dysfunction Risk of serotonin syndrome and seizures

Notes on Fentanyl Patches:

- THE 24-HOUR OME DIVIDED BY 2 IS EQUAL TO FENTANYL DOSE IN MCG/HR. Example: 50mg PO OME = 25mcg/hr fentanyl patch
- Patch takes ~24 hours to achieve full effect. When removing a patch, remember the analgesic effect can still last up to 24 hours
- Patch is typically changed every 72 hours

References: McPherson ML. Demystifying Opioid Conversion Calculations: A Guide For Effective Dosing. Amer Soc of Health-Systems Pharm, Bethesda, MD, 2010. Copyright ASHP.

^{*}These are rough estimates; individual patients may vary

^{**}Equivalency for a one-time dose of IV fentanyl only

[†]Xtampza ER 9mg = Oxycontin (Oxycodone ER) 10mg

Patient Controlled Analgesia (PCA)

The following are suggestions for PCA orders for adults. Like all opioid orders, doses must be individualized.

EDUCATE FAMILIES TO NOT PRESS THE PCA BUTTON!

Opioid Agonist	Opioid Status, Age	Loading Dose(s) (optional)	Starting Patient Administered Dose (mg)	Lockout Interval (min)	Starting RN Bolus Dose (mg)	Continuous Infusion Rate (mg/hr)
	Opioid Naïve	2-4mg q15 min	1	10-20	1	When indicated, calculate based on intermittent PCA use or previous opioid requirements
Morphine	Elderly (>70 years old)	2mg q20 min	0.5	10-20	0.5	
Hydromorphone	Opioid Naïve	0.2-0.3mg q15 mins	0.2	10-20	0.2	
	Elderly (>70 years old)	0.2mg q20 mins	0.1	10-20	0.1	

- Morphine is the opioid of choice (except for true drug allergy and renal failure)
- Capnography (EtCO2) monitoring is mandatory for all patients receiving PCA therapy, except those on mechanical ventilation, who are comfort measures only (CMO) or end-of-life. See PCA policy for more information. In patients with RR <6 breaths/min for 1-2 minutes, PCA will alarm and pause from administering medication

Buprenorphine for Pain

Select FDA-Approved Buprenorphine Products for Pain*

Brand Name	Starting dose	Recommended Maximum Daily Dose (MDD)	Comments
Butrans® (Transdermal patch)	Not currently receiving opioids: 5mcg/h transdermal Q7days Dosing recommendations to avoid precipitated withdrawal when converting from other opioids to Butrans**: Previous OME per day: < 30mg: 5mcg/h Q7days 30-80mg: 10mcg/h Q7days > 80mg: consider alternate analgesic	MDD: 20mcg/h given risk of QTc prolongation with higher doses	 Dosing frequency every 7 days Use with caution in severe hepatic impairment given limited ability to alter the dose of transdermal formulation in this setting Patch takes ~24 hours (up to 48 hours) to reach full effect Consider drug interactions with CYP3A4 inhibitors or inducers Buprenorphine 20mcg patch is approximately equivalent to 60mg OME per day
Belbuca® (Buccal film)	Not currently receiving opioids: 75mcg once daily or Q12H Conversion from other opioids to Belbuca**: Previous OME per day: < 30mg: 75mcg once daily-Q12H 30mg-89mg: 150mcg Q12H 90mg-160mg: 300mcg Q12H >160mg: consider alternate analgesic	MDD: 1800mcg/day (900mcg Q12H) given risk of QTc prolongation with higher doses	Dose reduce in severe hepatic impairment Consider drug interactions with CYP3A4 inhibitors or inducers

- Buprenorphine is a partial mu-agonist (ceiling for side effects)
- · It is possible to utilize simultaneous short-acting full opioid agonists for breakthrough pain while on buprenorphine.

^{*}This is not meant to be a comprehensive review of buprenorphine or guide for initiation for opioid use disorder.

^{**}If patient on full opioid agonists (e.g. oxycodone, morphine), package insert recommends tapering off current opioids prior to starting buprenorphine products to avoid withdrawal. This is not typically clinically possible prior to starting buprenorphine product for pain. In these instances, may utilize package insert starting dosing (above) to avoid precipitated withdrawal upon initiation and increase to effect. These starting doses do not accurately reflect "direct" OME conversions.

Opioid-Induced Constipation (OIC)

All patients on opioid therapy should be prescribed a bowel regimen.

Medication	Site and Mechanism of Action	Usual Starting Dose	Onset of Action	Maximum Daily Dose			
Stimulant Laxatives	Stimulant Laxatives						
Bisacodyl	Colon; stimulates peristalsis	PO: 5-15mg x1 dose PR: 10mg x1 dose	PO: 6-10 hours PR: 15 min–1 hour	30mg			
Senna	Colon; stimulates myenteric plexus, alters water and electrolyte secretion	2 tabs (8.6mg/each) at bedtime	6-10 hours	68.8mg			
Osmotic Laxatives	Osmotic Laxatives						
Polyethylene Glycol	GI tract; osmotic effect	17g (1 capful) q24 hours in 8 ounces of water	48-96 hours	As tolerated by patient			
Lactulose	Colon, osmotic effect	15-30mL q12-24 hours	24-48 hours	60mL (or 40g)			
Sorbitol	Colon; delivers osmotically active molecules to the colon	15-30mL q12-24 hours	24-48 hours	27-40g			
Saline Laxative							
Magnesium Citrate ∞	Small and large bowel; attracts and retains water in the bowel lumen	6.5-10 ounces once daily	30 min–3 hours	6.5-10 ounces			
Magnesium Hydroxide (MoM) ∞	Colon; osmotic effect & increased peristalsis	30mL q12-24 hours	30 min–3 hours	60mL			

- Goal is for patient to have a bowel movement every 2-3 days. If no bowel movement after 3 or more days, consider enema or high colonic tap water enema.
- Other medications that can exacerbate constipation: ondansetron (Zofran®), anticholinergics (tricyclic antidepressants, scopolamine, oxybutynin, promethazine, diphenhydramine), lithium, verapamil, bismuth, iron, aluminum, calcium salts. Constipation can occur with even 1 dose of IV morphine, and patient will never become tolerant to this adverse reaction
- · Oral docusate capsules (alone) will not increase frequency of bowel movements
- ∞: Avoid use of MoM and related products in patients with renal dysfunction because of risk of electrolyte imbalances

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Agents for Refractory Opioid Induced Constipation

Opioid Induced Constipation (OIC) Definition: those receiving opioids, with less than 3 spontaneous bowel movements per week despite treatment with maximum doses of two first-line laxatives (found on page 10)

Preferred, Formulary Agent: 1st line: Naloxegol (PO)

Dosing:

Initial dose: 25mg once daily

Reduce in patients with CrCl <60 mL/min to 12.5mg once daily

Avoid in severe hepatic impairment

Use with strong CYP3A4 inhibitors is contraindicated; avoid if

possible with moderate CYP3A4 inhibitors

Administration:

All other laxatives should be held for at least 3 days at initiation of naloxegol therapy. Other laxatives can be initiated after 3 days if inadequate results with naloxegol alone

Naloxegol should be taken on an empty stomach

Formulary-Restricted Agent (Restricted to: Pain Service, Oncology, Critical Care, GI Services, Palliative Care): **Methylnaltrexone (oral and subcutaneous)**

Methylnaltrexone PO Dosing:

450mg once daily (150mg if CrCl <60mL/min)

Methylnaltrexone SC Dosing:

Patient Weight		Dose (Administer once				
Pounds	Kilograms	daily or every other day)	*In patients with renal			
<84	<38	0.15mg/kg	impairment (CrCl <60			
84-136	38-62	8mg	mL/min),			
136-251 62-114		12mg	reduce dose by ½			
>251	>114	0.15mg/kg	Uy /2			

Administration:

Not recommended for the following:

- Use >4 months
- Treatment of post-operative ileus
- Patients with known or suspected mechanical gastrointestinal obstruction

Discontinue all maintenance laxatives before starting, may resume if suboptimal response after 3 days

Methylnaltrexone administration recommendations:

PO: take 30 minutes before first meal of day SC: inject into upper arm, abdomen, or thigh

References: Product Information: RELISTOR(R) subcutaneous injection, methylnaltrexone bromide subcutaneous injection. Salix Pharmaceuticals, Inc. (per FDA), Raleigh, NC, 2014. 9/2015. Product Information: MOVANTIK(TM) oral tablets, naloxegol oral tablets. AstraZeneca Pharmaceuticals. Wilmington, DE. 1/2015. Product Information: SYMPROIC(R) oral tablets, naloxegol oral tablets, naloxegol. Raleigh, NC. 5/2020.

Prescribing of Take-Home Intranasal Naloxone Kits

Patients who should be considered for take-home intranasal naloxone kits at discharge (any of the following):

- Currently prescribed >50mg OME/day
- Currently prescribed long-acting or extended-release opioids (especially new start and/or methadone)
- Concurrently prescribed sedating medications (especially benzodiazepines and gabapentin)
- Known history of opioid use disorder or history of overdose
- Prescribed opioids and carries a diagnosis of pulmonary disease (e.g. OSA, COPD, etc.)

	Narcan® Nasal Spray
Dosing	Administer a single spray/dose into one nostril. May repeat dose q2-3 minutes until patient is responsive or EMS arrives.
Notes	FDA approved formulation. Kit contains 2 doses

In 2015, Pennsylvania issued a **state-wide standing order** for naloxone kits such that any Pennsylvania resident can obtain these kits from participating pharmacies without a prescription from a prescriber.

To find a local pharmacy that carries intranasal naloxone visit: https://www.overdosefreepa.org/find-local-resources/find-naloxone/

In 2023, the FDA approved the first over-the-counter (OTC) naloxone nasal spray which does not require a prescription from a prescriber. Patients pay out of pocket for OTCs, so it may still be more cost-effective for the patient to receive via prescription order through insurance (if applicable).

Interventional Pain Management

Interventions that minimize systemic opioids and help with pain relief in a targeted fashion can be considered for a wide spectrum of patients. At UPMC, the chronic pain and palliative care services collaborate to identify patients who are most likely to benefit from such interventions.

Examples of available interventions which are best supported by evidence are listed below:

Common Nerve Blocks				
Block Type:	Indications:			
Erector Spinae Plane	High: chest wall pain; Low: abdominal pain not amenable to Celiac block			
Celiac Plexus Block	Abdominal visceral pain from: pancreatic cancer and other upper abdominal tumors			
Superior Hypogastric Block	Pelvic visceral pain from gynecological, colorectal or GU cancers			
Lumbar Sympathetic Block	Intractable LE pain from PVD or Chronic Regional Pain Syndrome			
Pudendal Nerve Block	Vaginal pain, penile/scrotal pain, perineal pain			
Sphenopalatine/Trigeminal Nerve Block	icial pain			
Epidural Steroid Injection	Low back pain – often for non-malignant pain			
	Centrally Implanted Pumps			
Hardware Type:	Indications:			
Intrathecal Pump	Pain refractory to systemic opioids with a prognosis of >3 months			
Tunneled Epidural Catheter	Pain refractory to systemic opioids with a prognosis of <3 months			
Spinal Cord Stimulator	Most helpful in refractory neuropathic limb pain (especially ischemic limb)			
Exclude patients • Neutropenic/Septic • Infection in the region of the proper procedure	Coagulopathic (INR >1.4 or platelets <100K) On anticoagulants/antiplatelet agents that are not safe to hold or reverse			

Medical Cannabinoids

Medical cannabinoids include: 1. Single molecular compounds (e.g. dronabinol – *contains tetrahydrocannabinol (THC) only*); 2. Liquid extracts (e.g. nabiximols - *not yet approved in the US*); and 3. Botanicals (i.e. medical marijuana).

FAQs: Medical Cannabis

- 1. What medical cannabis formulations are approved in PA? Pill, oil, topical forms, tinctures and liquids, and dry leaf formulations for vaporization or nebulization only. No smoking or plant forms are allowed.
- 2. How can patients obtain medical cannabis? There is a 4 step process. 1. Patient registers for program through medical cannabis registry; 2. State-approved physician certifies patient suffers from a medical condition that qualifies for medical cannabis (copay usually included); 3. Patient pays for medical cannabis card (up to \$50); 4. Patient gets medical cannabis from approved dispensary.
- **3. What serious medical conditions qualify a patient for medical cannabis?** The list is constantly updated. *Some* of the approved conditions are: ALS, autism, cancer, Crohn's disease, epilepsy, glaucoma, HIV/AIDS, Huntington's disease, IBS, MS, Parkinson's Disease, PTSD, severe chronic or intractable pain, anxiety disorder, and sickle cell anemia.
- **4. How much does medical cannabis cost?** Varies. A month supply can cost anywhere from \$30-200 depending on formulation and route. Costs are determined by individual dispensaries. Insurances do <u>not</u> cover medical cannabis. The hospice benefit does not cover medical cannabis.
- **5. Can the patient use medical cannabis in the hospital?** No. Per UPMC policy, medical cannabis cannot be administered or used while patient is in the hospital. Clinical staff will <u>not</u> under any circumstances handle medical cannabis, including obtaining, storing or administering.

To learn more, visit the PA medical marijuana website: https://www.pa.gov/guides/pennsylvania-medical-marijuana-program/

Assessment of Dyspnea

For Patients Who Can Communicate: Ask about Severity (cannot rely on RR or pO2 alone):

0 1 2 3 4 5 6 7	8	9	10
-----------------	---	---	----

No Shortness of Breath

Worst Shortness of Breath Imaginable

For Patients Who Cannot Communicate: e.g.: Respiratory Distress Observation Scale (RDOS):

	0 Points	1 Point	2 Points
Heart Rate	<90 bpm	90-109 bpm	≥110 bpm
Respiratory Rate	≤18 breaths/min	19-30 breaths/min	>30 breaths/min
Restlessness (non purposeful movements)	None	Occasional, slight movements	Frequent movements
Paradoxical Breathing Pattern (abdomen moves on inspiration)	None		Present
Accessory Respiratory Muscle Use (rise in clavicle during inspiration)	None	Slight rise	Pronounced rise
Grunting at End-Expiration (guttural sound)	None		Present
Nasal Flaring (involuntary movements in nares)	None		Present
Look of Fear	None		Eyes wide open, muscle tense, etc.
		TOTAL:	

A score of 3 or more (indicating moderate) should prompt the administration of medication for dyspnea. A score of 7 (indicating severe) or higher should prompt a call to primary provider or palliative and supportive care team.

Treatment of Dyspnea

- Address potential underlying etiologies: respiratory disease (e.g. COPD), cardiovascular diseases (e.g. CHF), infection, anemia, chronic kidney disease (CKD)
- Treat utilizing both nonpharmacological interventions and medications

Nonpharmacological Interventions: Handheld fan, pulmonary rehab, oxygen (with input from pulmonologist)

Medications: First line therapy: low-dose opioids. Include PRN reason: dyspnea for low-dose opioid orders to be used for dyspnea and NOT for pain or NOT only for pain).

- Consider benzodiazepines (BZDs), only if anxiety component exists. BZDs will not improve dyspnea alone

	Starting Doses	Other Dosing Considerations			
Opioid Naïve	 For Non End of Life Patients: Consider oxycodone 2.5-5mg PO q4h PRN or morphine 2mg IV q3h PRN For End of Life Patients: Morphine 3-5mg IV q2h PRN Opioid doses exceeding 30mg OME/day are not recommended in opioid naïve patients 	 If distress not relieved in 15 minutes after starting dose, give bolus equal to the loading dose increased by 50%. If severe distress persists repeat the dose every 15 minutes until comfortable For increased pain/distress give extra bolus dose(s) equal to the last given bolus dose every 30 minutes as needed If using more than 2 bolus doses over a 6-hour period, consider starting a continuous infusion 			
Opioid Tolerant	 Calculate the equianalgesic parenteral dose of morphine for the last 24 hours (see slides 6 for more information), and consider dosing strategies as listed Increase PRN dose by 50% Opioid doses should not exceed more than a 25% increase in opioid tolerant patients 	 Divide the total 24 hour IV morphine dose by 24 to determine initial hourly infusion rate (mg/hour). Start continuous infusion at this rate If patient pain/distress use loading dose = hourly infusion rate If distress not relieved in 15 minutes after initial loading dose or the patient is in increased pain/distress, administer the loading dose increased by 50% and repeat every 15 minutes until comfortable If using more than two bolus doses over 6-hour period, determine new continuous infusion rate by recalculating total dose given over last 6 hours and dividing it by 6 			

Nausea and Vomiting Treatment

Medications should be selected based on perceived etiology and pathophysiology.

	Drug	Starting Dose/Route	MDD	Comments
apies	Metoclopramide*	5-20mg PO/SC/IV AC and HS	60mg	Dopamine antagonist Contraindicated in bowel obstruction Risk of EPS with prolonged use (>12 weeks)
Line Therapies	Haloperidol	0.5-4mg PO/SC/IV q6h	5mg	Dopamine antagonist IV has higher risk of EPS and QTc prolongation than PO. Risk may not be significant with lower doses for emesis
First Li	Olanzapine	2.5-5mg PO once daily	20mg	Dopamine, histamine, serotonin, alpha-1 and acetylcholine antagonist Risk of QTc prolongation although may not be significant with lower doses used for nausea; Common ADRs: sedation, dry mouth, headache, dizziness, increased appetite
s or ns	Prochlorperazine	5-10mg PO/IV q6h or 25mg PR q6h	40mg	Dopamine and histamine antagonist Risk of EPS; Common ADR: sedation
Therapies o	Ondansetron	4-8mg PO/IV q4-8h	32mg	Serotonin antagonist Risk of QTc prolongation Helpful for chemotherapy induced nausea only Common ADRs: headache, fatigue and constipation
Second Line Compelling	Dexamethasone	4-8mg PO/IV qAM or BID	8-16mg	Helpful for nausea due to raised ICP Common ADRs: agitation, insomnia, and hyperglycemia
Seco	Scopolamine	1.5mg patch q72h	1 patch q72h	Acetylcholine antagonist Common ADRs: dry mouth, blurred vision, ileus, urinary retention. Considered a higher cost agent

^{*}Metoclopramide is considered first line for empiric therapy; MDD: maximum daily dose (for nausea); ICP: intracranial pressure

References: Glare P, Miller J, Nikolova T, Tickoo R. Treating nausea and vomiting in palliative care: a review. Clin Interv Aging. 2011;6:243-59. Wood GJ, Shega JW, Lynch B, Von Roenn JH. Management of intractable nausea and vomiting in patients at the end of life: "I was feeling nauseous all of the time . . . nothing was working". JAMA. 2007 Sep 12;298(10):1196-207.

Diagnosis of Delirium

- Delirium is conceptualized as a reversible illness, except in the last 24-48 hours of life
- Delirium occurs in at least 25-50% of hospitalized cancer patients, and in a higher percentage of patients who are terminally ill
- · Delirium increases the risk of in-hospital and six month mortality

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D: Drugs Opioids, anticholinergics, sedatives, benzodiazepines, steroids, chemo - and immunotherapies, some antibiotics					
E: Eyes and Ears	Poor vision, hearing, isolation				
L: Low flow states	Hypoxia, MI, CHF, COPD, shock				
I: Infections	I: Infections				
R: Retention (of urine or s	tool)				
I: Intracranial CNS metastases, seizures, CVA, hypertensive encephalopathy					
U: Under hydration/nutrition/sleep/pain					
M: Metabolic disorders Sodium, glucose, thyroid, hepatic, deficiencies of Vitamin B12, folate, niacin, and thiamine and toxic levels of lead, manganese, mercury, alcohol					

DSM-V Criteria for delirium includes five components:

- A. A disturbance in attention (i.e., reduced ability to direct, focus, sustain, and shift attention) and awareness (reduced orientation to the environment)
- **B.** The disturbance develops over a short period of time (usually hours to a few days), represents a change from baseline attention and awareness, and tends to fluctuate in severity during the course of a day
- C. An additional disturbance in cognition (e.g. memory deficit, disorientation, language, visuospatial ability, or perception)
- **D.** The disturbances in Criteria A and C are not better explained by a pre-existing, established or evolving neurocognitive disorder and do not occur in the context of a severely reduced level of arousal, such as coma
- **E.** There is evidence from the history, physical examination or laboratory findings that the disturbance is a direct physiological consequence of another medical condition, substance intoxication or withdrawal, or exposure to a toxin, or is due to multiple etiologies

Diagnosis of Delirium

3D CAM (Confusion Assessment Method)

Diagnosis is positive with presence of: 1 AND 2; and either 3 OR 4

Feature	Questions Asked	Observations at Bedside	Positive Answers
1. Acute Onset or Fluctuation	 During the past day have you felt confused? During the past day did you think you were not really in the hospital? During the past day did you see things that were not really there? 	 Fluctuation in level of consciousness Fluctuation in attention during interview Fluctuation in speech or thinking 	Any answer other than 'no' is positive Any positive observation is a yes
		- AND -	
2. Inattention	Can you tell me the days of the week backwards, starting with Saturday? Can you tell me the months of the year	 Did the patient have trouble keeping track of what was being said during the interview? Did the patient appear inappropriately 	Anything other than 'correct' is coded as positive
	backwards, starting with December?	distracted by environmental stimuli?	Either observation is positive
	- AN	ID EITHER -	
3. Disorganized Thinking	 Can you tell me the year we are in right now? Can you tell me the day of the week? Can you tell me what type of place this is? Was the patient's flow of ideas unclear or illogical, for example: did the patient tell a story unrelated to the interview (tangential)? Was the patient's conversation rambling, for example did he/she give inappropriately verbose and off target responses? Was the patient's speech unusually limited or sparse? (i.e. yes/no answers)? 		Any answer other than 'correct' is coded as positive Answer is 'yes'
		- OR-	
4. Altered Level of Consciousness		Was the patient's speech unusually limited or sparse? (i.e. yes/no answers)	Either observation is positive

References: Confusion Assessment Method. © 1988, 2003, Hospital Elder Life Program. All rights reserved. Adapted from: Inouye SK et al. Ann Intern Medicine. 1990;113:941-8.

Treatment of Delirium

- Always consider nonpharmacological interventions
- Always look for and treatment underlying causes of delirium (see Page 18)
- Benzodiazepines are NOT effective in treating delirium not associated with alcohol withdrawal, may worsen delirium, and should be used cautiously
- Although evidence is mixed, neuroleptics can be considered for the treatment of <u>agitated</u> delirium

 Haloperidol is considered first line agent

	Starting Dose	MDD	Adverse Drug Reactions			
Medication			EPS	Anti- cholinergic	Sedation	QTc Prolongation
Haloperidol	0.5-1mg BID to q8h	20mg	PO: ++ IV: +++	+	0/-	PO: + IV: ++
Risperidone	0.25-1mg BID, up to q6h	6mg	++	+	++	++
Olanzapine	2.5-10mg daily	20mg	+	++	+++	+
Quetiapine	12.5-50mg BID or TID	800mg	+	++	+++	++
Aripiprazole	5-15mg qAM	30mg	++	+	++	0/-
Thioridazine	50-100mg TID	800mg	+	+++	+++	+

MDD: maximum daily dose

The FDA has determined that the use of antipsychotic medications in the treatment of behavioral disorders in elderly patients with dementia is associated with increased mortality. This risk appears to be highest during the first two weeks of use.

Treatment of Depression and Anxiety

Commonly prescribed antidepressants:

	Medication	Starting Dose	Target Daily Dose	Adverse Drug Reactions		
Category				Anti- cholinergic	Insomnia	GI Distress
	Citalopram	10-20mg daily	10-40mg	+	+	++
	Escitalopram	5-10mg daily	10-20mg	+	+++	++
SSRIs	Sertraline	25-50mg daily	50-200mg	-	+	+++
	Fluoxetine	10mg daily	40mg	-	+	+
	Paroxetine	10mg daily	40mg	++	+	+
SNRIs	Venlafaxine (IR and XR)*	75mg/day (either qAM (XR) or divided TID (IR)	150-375mg	+	++++	++
	Duloxetines	20mg BID	30-60mg	+	++	++
Stimulants	Methylphenidate [†]	2.5-5mg BID (at 08:00/12:00)	5-40mg		++++	+
Other	Mirtazapine	7.5-15mg daily	30-45mg	+	-	+

^{*} Dual serotonin/norepinephrine action at doses of 150-225mg which is effective in neuropathic pain and is mildly activating. On switching from the venlafaxine XR to venlafaxine, the shorter half life of venlafaxine requires frequent dosing to reach the same dose of venlafaxine XR. Use with caution in patients with hypertension **B** Do not use in patients with liver dysfunction

[†]Energizing, will see effect of medication after first or second dose

⁻ Tricyclic antidepressants (TCAs) are not recommended first-line for treatment of depression or anxiety; for more information on this class utilize drug information resources like Micromedex®

Treatment of Oral Secretions at the End of Life

- As the level of consciousness decreases in the dying process, patients lose their ability to swallow and clear oral secretions. As air
 moves over the secretions, the resulting turbulence produces noisy ventilation with each breath, described as gurgling or rattling
 noises
- These sounds are good predictors of near death; one study indicated the median time from the onset of increased upper respiratory sounds to death was 16 hours¹
- Families may feel distress when hearing sounds produced by secretions at the end of life. It is important to discuss this with them and talk about how certain therapies can be helpful
- It may be helpful to discuss the role of oral and pharyngeal suctioning with family and nursing staff. While suctioning can help clear secretions initially, ongoing suctioning can cause discomfort at the end of life

Nonpharmacological Interventions: Position the patient on their side or in a semi-prone position (30-45° angle) to facilitate postural drainage

Medications: Standard of care are muscarinic receptor blockers (anticholinergic drugs). Note these agents will only address future secretions - will not dry up present secretions

Medication (Route)	Starting Dose Onset of Action		Maximum Daily Dose	
Glycopyrrolate (PO)*	1mg q4-6h PRN	30 min	8mg	
Glycopyrrolate (SC/IV)*	0.2mg q4-6h PRN	1 min	8mg	
Atropine (IV)	0.1mg q4-6h PRN	1 min	2mg	
Atropine△ (SL drops)	1gtt (1%) q4-6h PRN	30 min	48gtts	
Hyoscyamine (Tabs, and SL Tabs)	0.125mg TID-QID PRN	30 min	1.5mg	
Scopolamine (Transdermal Patch)	1mg patch q72h	12 hrs	1 patch q72 hrs	

^{*} Glycopyrrolate will not cross the blood-brain-barrier, reducing the risk of CNS toxicity (sedation, delirium)

Communication Techniques: Responding to Emotion (NURSE)

A common/expected response to serious news is emotion. By responding to emotion, we create a moment of connection and space for the patient to feel and possibly share more. We are not trying to "fix" or resolve the emotion.

Framework	Example
<u>N</u> aming	"This is overwhelming"
<u>U</u> nderstanding	"I can't imagine how hard this must be"
<u>R</u> espect	"I am so impressed with"
<u>S</u> upport	"We will be with you every step"
<u>E</u> xplore	"Could you tell me more."

Communication Techniques: Addressing Goals of Care (REMAP)

This framework serves as an outline to guide a patient/family member through a goals of care conversation to ensure all important aspects are addressed. Expect emotion throughout the conversation.

Step	What you say or do
Reframe why the status quo isn't working	ASK what their understanding is: "What have the doctors told you about?" ASK permission: "Is it OK if I talk about?" TELL: Give a big picture headline with information and meaning (e.g.): "The scans show your cancer has spread and that means that it is no longer curable."
Expect emotion & empathize	Use your NURSE statements (page 23)
Map the future	"Given this situation, what's most important to you?" "As you think towards the future, what concerns you?" "What conversations have you had about if your health were to get worse?"
Align with the patient's values	"As I listen to you, it sounds the most important things are [x,y,z]"
Plan medical treatments that match patient values	"Here's what I can do now that will help you do those important things. What do you think about it?"

Communication Techniques: Addressing Code Status

In talking with patients or families about code status outside goals of care conversations, i.e. on hospital admission, consider utilizing this framework.

Framework	Notes
<u>C</u> : Check for prior code status discussion/documents (POLST, GOC notes, advance directives)	
P: Provide CPR-related prognosis and assess preferences	Ask <u>permission</u> before each step Respond to <u>emotion</u> throughout
R: Recommendation around CPR/intubation	

Tips for Code Status Discussions

- 1. Focus on the outcome (surviving to leave the hospital, function after resuscitation...), not the intervention
- Respond to emotion
- 3. Simple language breathing machine, CPR (NOT ventilator, resuscitation, code status)
- 4. Emphasize what you WILL do before you talk about what you won't do
- 5. Compare expected outcome of CPR with what you know is important to the patient (goals/values which often comes with a larger GOC conversation)- especially important if talking with surrogate.
- 6. Document key components of your discussion in a centralized GOC form for future encounters

References

^{1.}Calculate prognosis after CPR using GO FAR calculator: GO-FAR (Good Outcome Following Attempted Resuscitation) Score

^{2.}Okubo M, Komukai S, Andersen LW, et al. Duration of cardiopulmonary resuscitation and outcomes for adults with in-hospital cardiac arrest: retrospective cohort study. BMJ 2024 Feb 7; 384:e076019.

Spirituality Overview and Tips

Spirituality is a collection of beliefs and practices that reflect how people understand themselves and the world around them. Spirituality is often a response to the vulnerability we experience as humans, facing what we cannot control. Even a person who is not affiliated with an organized religion will still have a spiritual aspect to how they understand and cope with a life-limiting or serious illness. Within palliative care, spirituality can be essential in the process of healing, even when there is no cure.

Incorporating Spirituality into Patient Care

Patients and their families will often share aspects of their spirituality when faced with difficult medical news and hard
decisions. It can be helpful for clinicians to consider spirituality as part of a patient's broader support network and
coping strategies, and engage with the information accordingly. If you wish to inquire more specifically about a
patient's spirituality, the HOPE map below is a helpful guide:

H: Hope Sources of hope, strength, comfort, meaning, peace, love and connection	
O: Organized Religion Role of organized religion in the patient's life	
P: Personal Personal spiritual practices	
E: Effects Effects of patient's spiritual and/or religious values on care	

Hospital chaplains are trained to support a wide range of patient and family spirituality. When asking a patient about a chaplain visit, consider referral by inclusion when possible:

<u>Referral by Inclusion:</u> "Our treatment team consists of a variety of professionals to assist you during this stressful time. In addition to your physicians and nurses, you may meet social workers, chaplains and others. We all work together on your behalf."

Referral by Exclusion: "Would it be helpful for a chaplain to see you?

UPMC Palliative Care and Pain Treatment Resources

Inpatient Supportive and Palliative Care Services			
UPMC PUH/MUH Supportive & Palliative Care Service	412-647-7243; pager: 8511		
UPMC Shadyside Supportive & Palliative Care Service	412-647-7243; pager: 8513		
UPMC Magee Womens Hospital of UPMC Supportive & Palliative Care Service	412-647-7243; pager: 8510		
UPMC Children's Hospital of Pittsburgh of UPMC Supportive Care Program	412-692-3234		
VA Palliative Care Program Outpatient and Oncology	412-360-1293		
UPMC Altoona Supportive & Palliative Care Service (Altoona Family Practice)	814-889-2701		
UPMC East Supportive & Palliative Care Service	412-858-9565		
UPMC Hamot Supportive & Palliative Care Service	814-877-2565		
UPMC Mercy Supportive & Palliative Care Service	412-232-7549		
UPMC Northwest Supportive & Palliative Care Service	814-677-7440		
UPMC Passavant Supportive & Palliative Care Service	412-748-5790		
UPMC St Margaret Supportive & Palliative Care Service	412-784-5484		
UPMC Washington Supportive & Palliative Care Service			
Inpatient Medical Ethio	es Services		
PUH/MUH Medical Ethics	412-647-2345 (call operator, ask for Medical Ethics)		
Shadyside Medical Ethics	412-623-2121 (call operator, ask for Medical Ethics)		
Inpatient Pain Treatment Services			
PUH/MUH Chronic Pain Service	412-692-2234		
Shadyside Chronic Pain Service (Center Commons)	412-665-8030; after hours call: 412-665-8031		
PUH/MUH Acute Interventional Perioperative Pain Service (AIPPS)	412-647-7243; pager: 7246 (PAIN)		
Shadyside Acute Interventional Perioperative Pain Service (AIPPS)	412-692-2333		

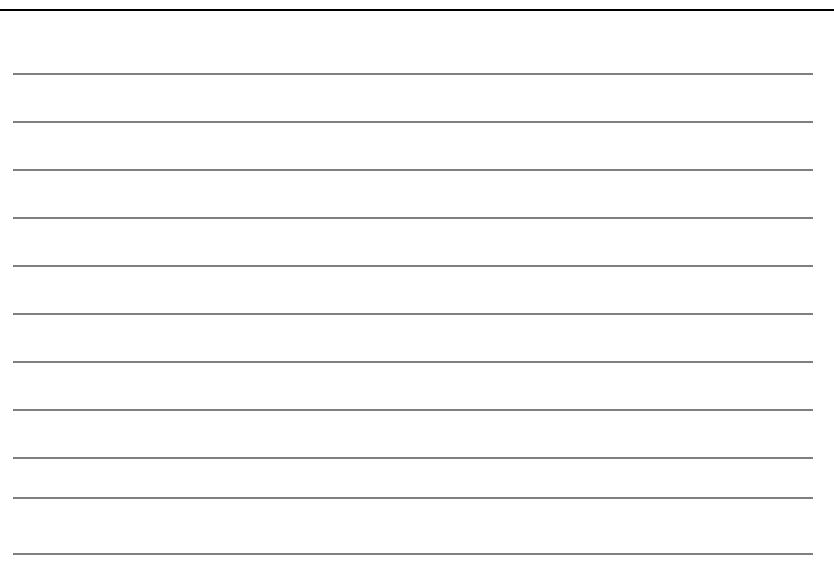
UPMC Palliative Care and Pain Treatment Resources

Outpatient Services		
Palliative Care at Benedum Geriatric Center	412-692-4200	
Palliative Care at Hillman Cancer Center	412-692-4724	
Palliative Care at Presbyterian Heart Failure Clinic	412-647-7061	
Palliative Care at the Kidney Clinic	412-802-3043	
Palliative Care at Magee in the GynOnc Clinic	412-641-5411	
Palliative Care at St. Margaret Clinic	412-784-5050	
Palliative Care at Passavant Clinic	412-748-5790	
Palliative Care at Mercy Oncology Clinic	412-232-7328	
Palliative Care at East Clinic	412-357-3604	
Family Hospice	Administration: 412-572-8800 Info/Referrals: 1-800-513-2148	
Palliative Recovery Engagement Program	412-232-6275	
St Margaret Pain Medicine	412-784-5119	
Pain Management at Falk Medical Building (Presbyterian)	412-692-2234	

UPMC Spiritual Care Resources

Inpatient Hospital Spiritual or Pastoral Care Offices		
UPMC Magee-Women's Hospital	412-641-4525	
UPMC Presbyterian/Montefiore	412-647-7560	
UPMC Shadyside	412-623-1692	
UPMC St. Margaret	Protestant Chaplain Office: 412-784-4080	
Of MO St. Margaret	Catholic Priest Office: 412-784-4082	
UPMC Mercy	412-232-8198	
UPMC McKeesport	412-664-2057	
UPMC East	412-357-3151	
UPMC Passavant	412-748-6516	
Children's Hospital of Pittsburgh	412-692-5349	
VA Hospital Oakland campus	412-822-1551	

Notes



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Indications for Palliative Care Referral:

- Pain in patients with life-limiting illness
- Management of other symptoms such as nausea, vomiting, shortness of breath, delirium
- Negotiating goals of treatment or end-of-life decision making
- Family support for a patient with a life-limiting illness

- Psychological or spiritual counseling for patients and their families
- Discharge planning and interface with local hospices
- Bereavement services in the event of death
- Outpatient palliative care follow up

Questions or comments regarding this information, contact Jane Schell, MD (<a href="schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocenter-schell-ocent



UPMC PALLIATIVE AND SUPPORTIVE INSTITUTE

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