Overcoming challenges in pain management in older patients

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Pain

"An unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage"

(International Association for the Study of Pain)

Epidemiology

Community-dwelling older persons

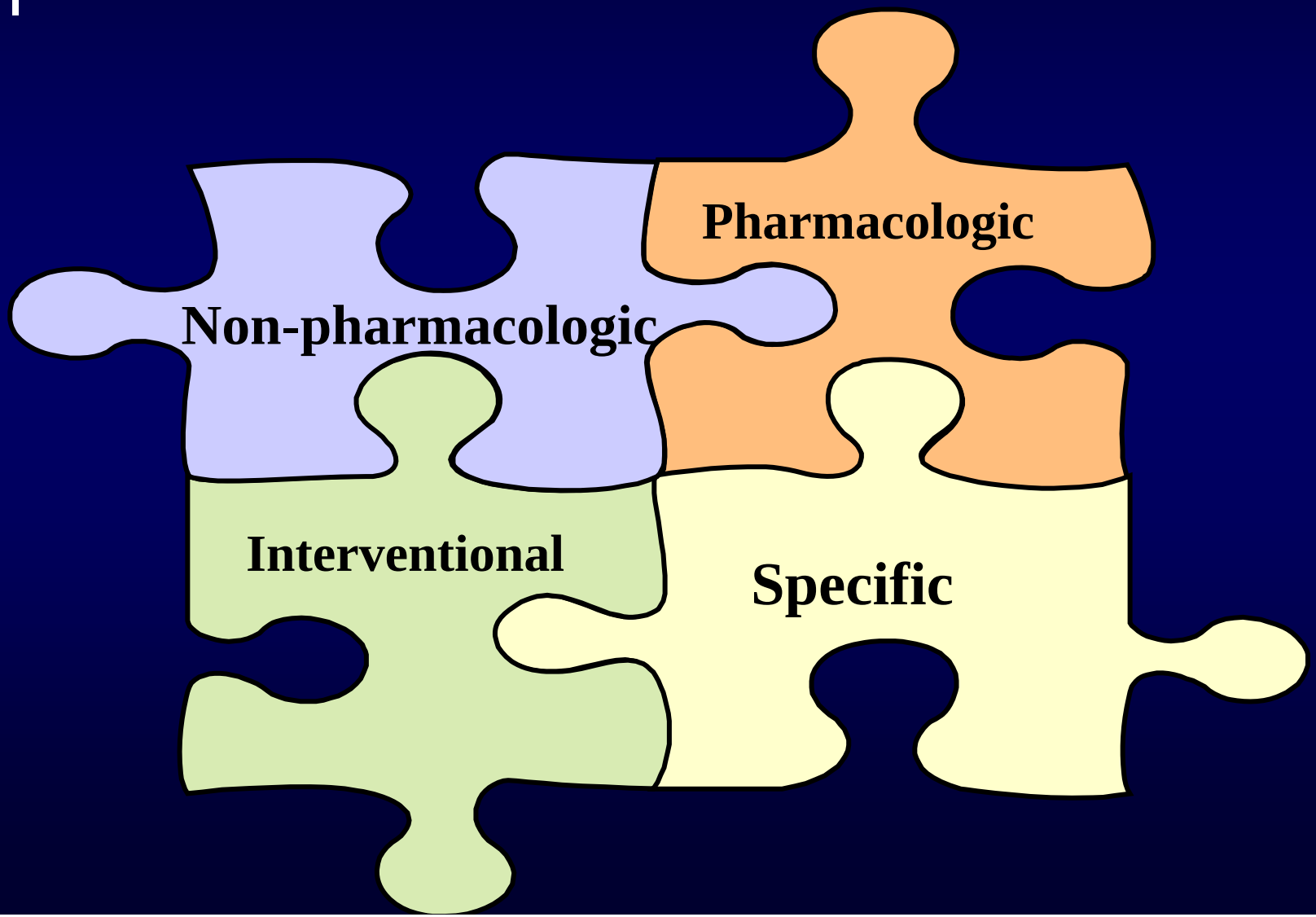
- prevalence 30-75%
- pain is the most frequently reported symptom (73%)
- pain most often chronic, constant, multifactorial and lasting for several years

Long-term care

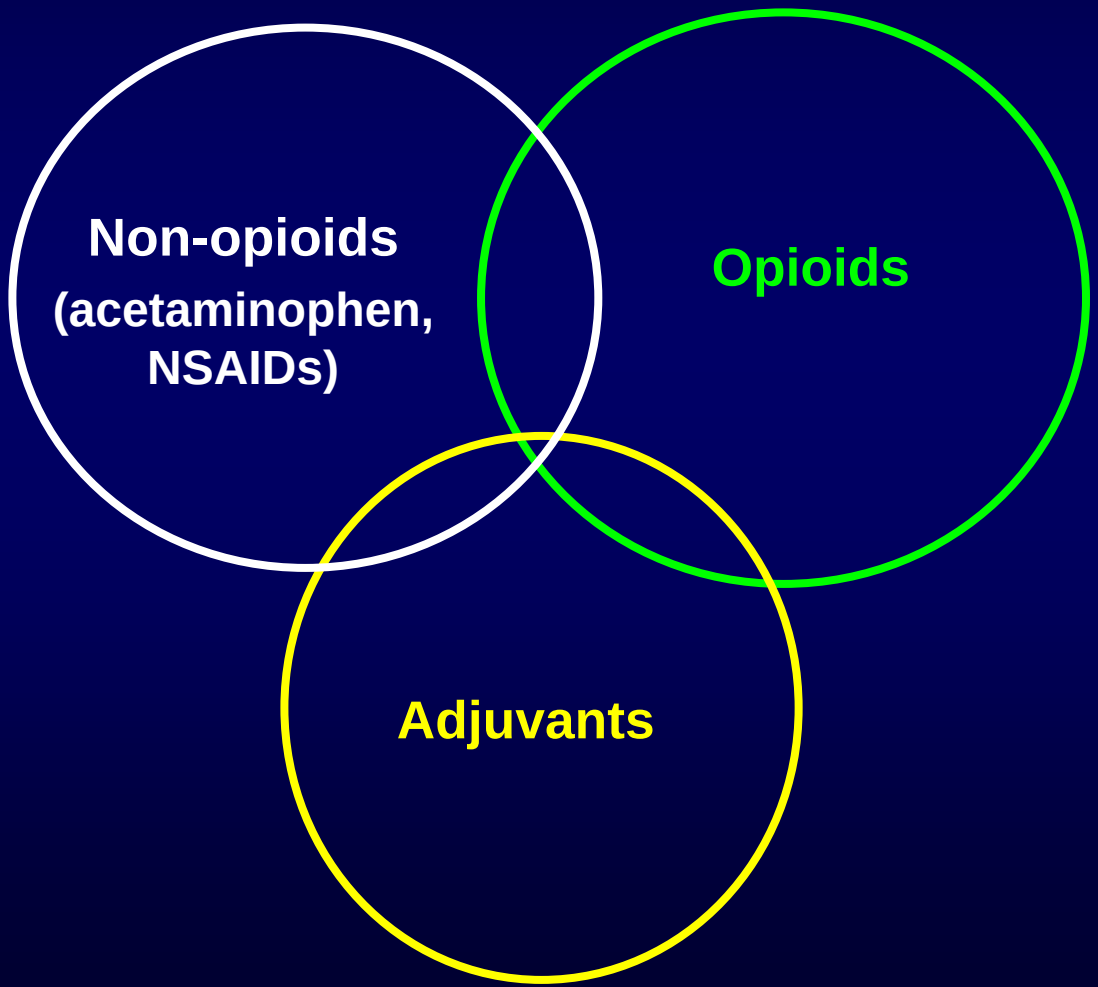
- prevalence 40-80%
- pain complaints less frequent in patients with cognitive impairment

➢ Pain is undertreated in older persons, in all health care settings, especially in very old or demented patients

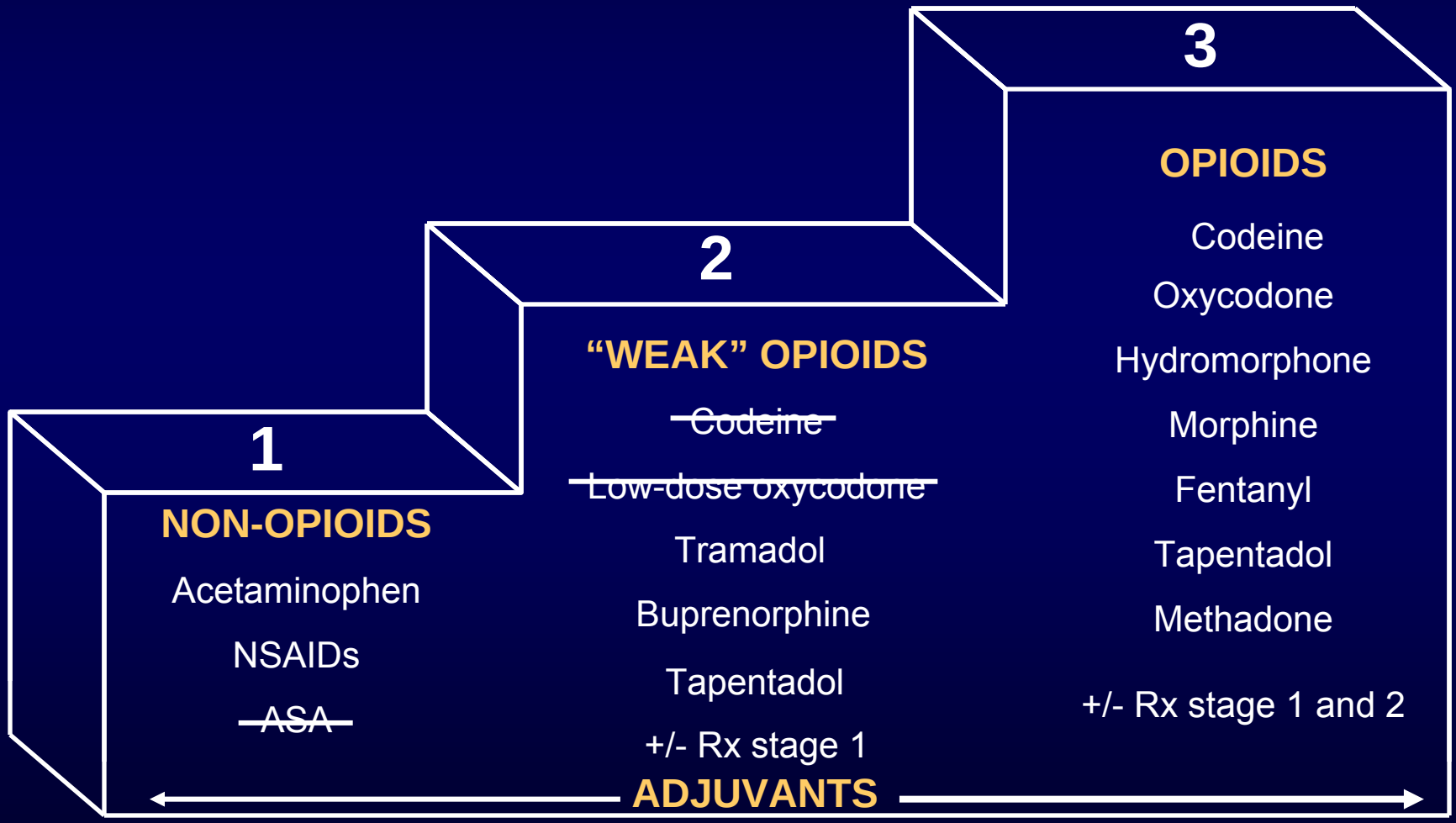
Pain management



Pharmacological treatment



WHO Analgesic Ladder



Acetaminophen

- ↑ half-life in older patients: qid rather than q 4 hours
- Sustained-release formulation 650 mg can be used bid-tid
- Adverse effects
  - renal toxicity with prolonged use
  - risk of liver toxicity with high doses
- Caution with “back pain” and “body pain night” : methocarbamol

Acetaminophen

- Maximum doses :
  - 4 g/d <10 days in healthy and well nourished patients
  - 3,2 g/d for prolonged use in healthy patients
  - 2,6 g/d for prolonged use in patients at risk or > 65 years old

NSAIDs

- Better efficacy compared to acetaminophen has not been clearly shown for osteoarthritis
- Adverse effects
  - ↑ risk of exacerbation of renal failure
  - ↑ risk of G-I bleeding (especially in patients already treated with ASA for cardioprotection)
  - danger of fluid retention (hypertension, heart failure)
  - ↑ risk of cardiovascular complications ?

NSAIDs in older patients

Pharmacological Management of Persistent Pain in Older Persons

American Geriatrics Society Panel on the Pharmacological Management of Persistent Pain in Older Persons

II) Non-selective NSAIDs and COX-2 selective inhibitors may be considered rarely, and with extreme caution, in highly selected individuals

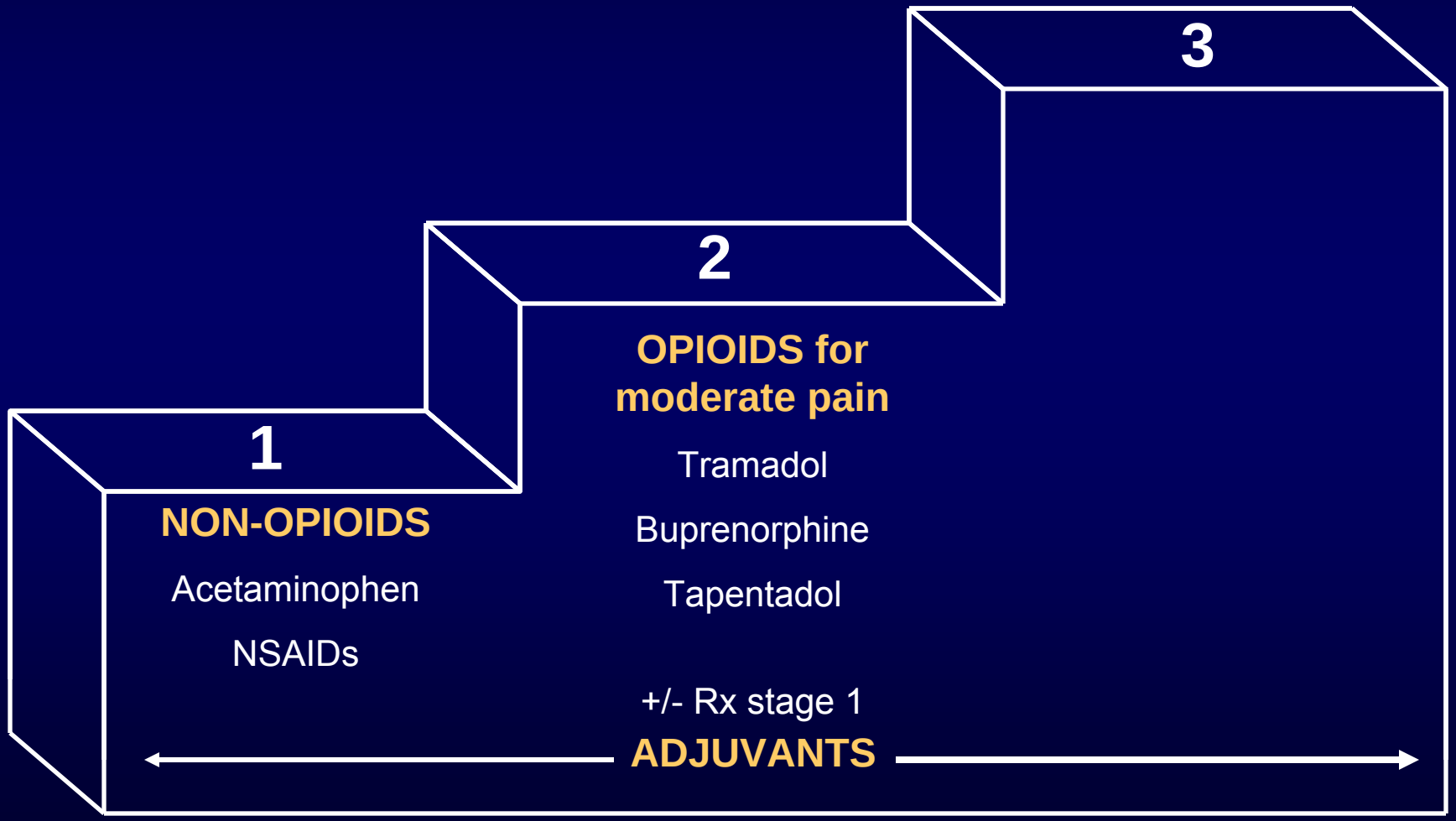
(A) *Patient selection*

- other (safer) therapies have failed
- evidence of continuing therapeutic goals not med
- ongoing assessment of risks and complications outweighed by therapeutic benefits

VII) All patients taking nonselective NSAIDs and COX-2 selective inhibitors should be routinely assessed for

- G-I toxicity
- renal toxicity
- hypertension
- heart failure
- other drug-drug and drug-disease interactions

WHO Analgesic Ladder



Opioids

- No analgesic ceiling except for codeine
- Maximum dose
  - significant adverse effects despite prevention and treatment
- Opioids for chronic pain
  - tramadol
  - buprenorphine
  - tapentadol
  - codeine
  - morphine
  - hydromorphone
  - oxycodone
  - fentanyl
  - methadone

Opioids in older patients

- Scarce data on pharmacokinetic and pharmacodynamic properties of opioids in older patients
- Consider comorbidities and concomitant medications when choosing the most appropriate opioid for a patient
- Avoid meperidine (Demerol®) and pentazocine (Talwin®)
- Start with the smallest dose available and titrate up based on analgesic response and adverse effects

Tramadol

- 3 mechanisms of action
  - very weak μ-opioid receptor agonist
    - not defined as opioid pharmacologically
    - not legally considered as narcotic in Canada
  - noradrenaline and serotonin reuptake inhibitor
- Analgesic efficacy shown for relief of nociceptive and neuropathic pain, including several studies on older subjects
- Less constipation and sedation than other opioids
- Adverse effects
  - Nausea/vomiting
  - Dizziness
  - Constipation
  - Sedation

Tramadol

- Precautions
  - ↓ seizure threshold : contraindicated in epileptics
  - theoretical risk of serotoninergic syndrome when used in combination with high-dose SSRI or NSRI
- Always taper down progressively if dose > 150 mg/d

Transdermal buprenorphine

- BuTrans®
- Semi-synthetic opioid analgesic
- Very potent agonist of μ-opioid receptor
- Indication
  - Management of persistent pain of moderate severity in adults requiring continuous opioid analgesia for an extended period of time
- Metabolized by glucuronidation
  - no drug-drug interaction

Transdermal buprenorphine

- Cleared via intestines
  - no accumulation in renal failure
  - no dose adjustment required in renal failure
- Transdermal matrix patch delivery system
  - controlled drug delivery
    - amount of drug released is proportional to surface area of patch
  - steady delivery for 7 days

Transdermal buprenorphine

- 3 doses available : 5, 10, 20 mcg/h
- Change patch q 7 days
- Lowest dose can be used in opioid-naïve patients
  - sometimes, better to start with 2,5 mcg/h q 7 days

Tapentadol

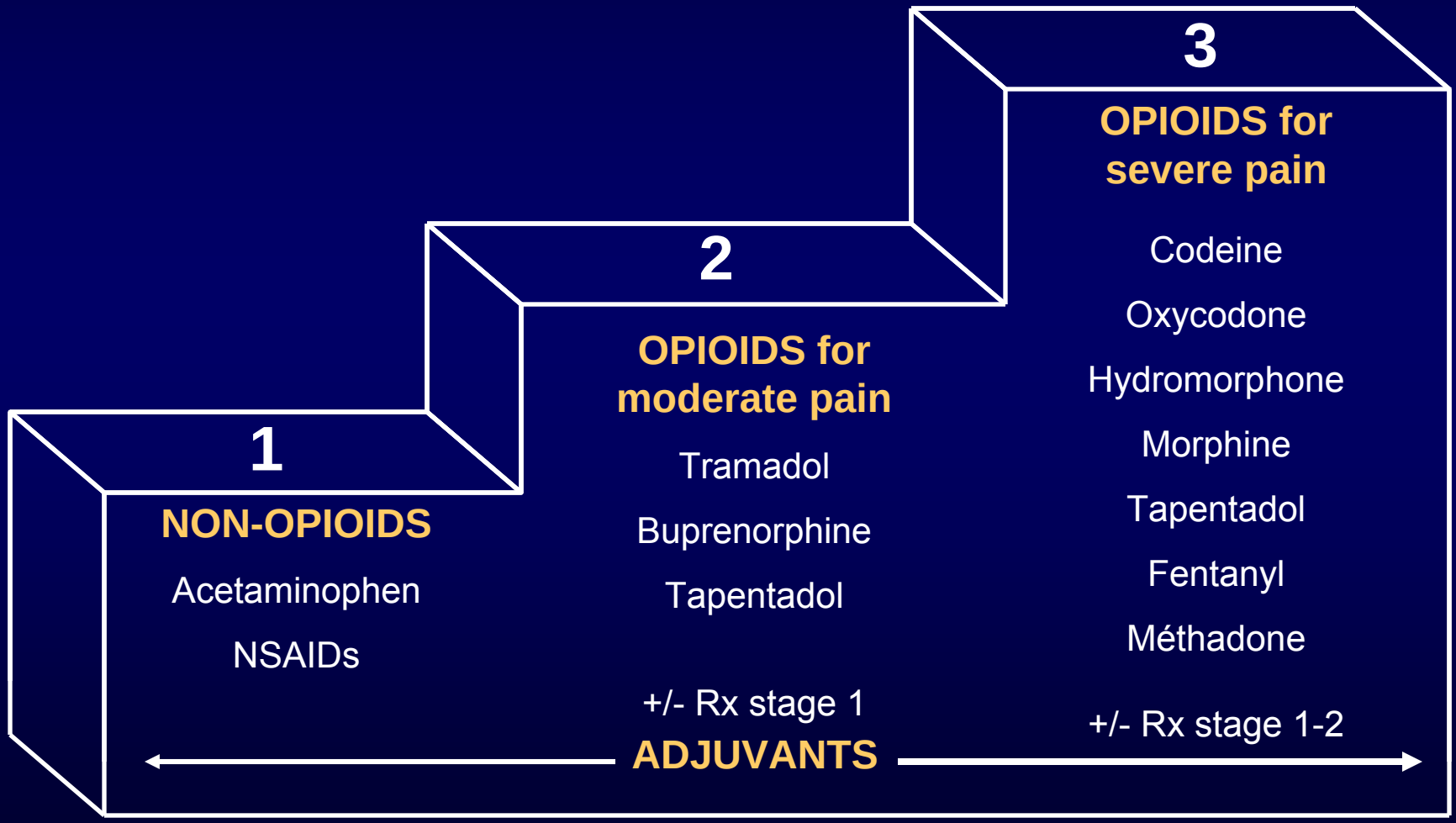
- Nucynta CR®
- Synergistic activity of 2 mechanisms of action
  - opioidergic
  - noradrenergic
- Indication
  - Treatment of persistent pain of moderate intensity in adults requiring continuous analgesia for a prolonged period

Tapentadol

- Metabolized par glucuronidation
  - no drug-drug interaction
- Renal clearance
  - adjust dose in renal failure
- Dosing
  - 50 mg bid - 250 mg bid

NUCYNTA™ CR 50 mg = OxyContin™ CR 10 mg

WHO Analgesic Ladder



Opioids

Morphine

- renal clearance
  - morphine and its metabolites accumulate in renal failure

Codeine

- renal clearance
- more nausea and confusion than other opioids ?
- requires transformation in active metabolites by CYP2D6

Hydromorphone

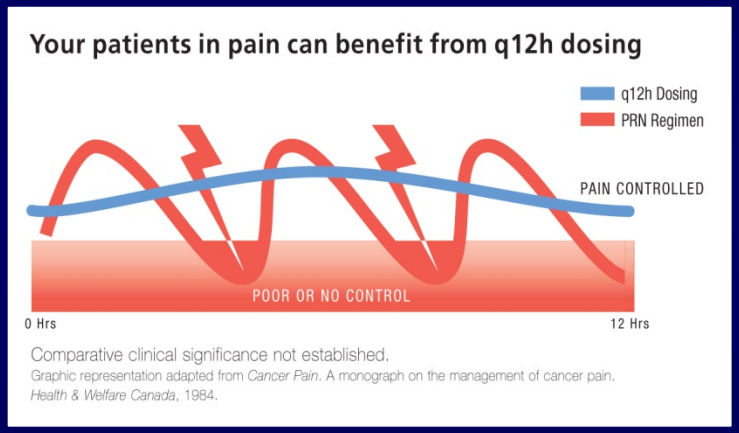
- renal clearance
  - metabolites have low affinity for opioid receptors

Oxycodone

- less accumulation in renal failure

Long-acting opioids

- Avoid fluctuations of pain intensity and adverse effects secondary to variations of plasma levels



- ↓ number of daily tablets
  - ↑ compliance
  - ↓ dependency on nursing staff and family
- Better sleep

Long-acting opioids

- Indications
  - constant pain
  - frequent episodic pain
- Most of the time, should only be used in patients who tolerate several daily doses of short-acting opioids
- Better to start with several regular daily doses of short-acting opioids, and later convert to a long-acting opioid if well tolerated

Fentanyl

- Very lipophilic → caution with obese and older patients
- Transdermal fentanyl patch
  - ↑ absorption variability in older patients
  - "An opioid naïve person should NEVER be prescribed a 25-mcg/h transdermal fentanyl patch"
    - 25 mcg/h patch = oral morphine 60 mg/d
    - 12 mcg/h patch = oral morphine 30 mg/d
      - dose still too high for opioid-naïve patients
  - use of partial patches has not been studied and is not approved by Health Canada
  - ➢ useful in patients with constant severe pain non relieved by other opioids at equianalgesic doses (opioid rotation)

Long-acting opioids

- Hydromorphone (HydromorphContin®)
  - Lowest available dose : 3 mg
  - Capsule can be opened
    - granules keep sustained-release properties
    - granules can be mixed with cold food
    - granules can be administered via jejunostomy or feeding tube
    - dose can be divided in smaller doses

Long-acting opioids

- Oxycodone (OxyContin®, OxyNeo®)
  - New formulation of sustained-release oxycodone (OxyNeo®) to decrease abuse potential
    - hardened tablets resistant to crushing
    - hydrogelling properties
      - tablet or particles become highly viscous (gel-like) in contact with water
  - Precautions to decrease risk of choking
    - take 1 tablet at a time
    - do not pre-soak, lick or wet the tablet prior to placing in mouth
    - drink with enough water to allow rapid transit
  - 5-mg dose not available

Opioids – adverse effects

↓ possible after a few days (tolerance)

Adverse effect	Prevention / treatment
Nausea	Dimenhydrinate (Gravol®)
Sedation	Methylphénidate (Ritalin®) Modafinil (Alertec®)
Dry mouth	Artificial saliva

Opioids – adverse effects

Persistent (no tolerance)

Adverse effect	Prevention / treatment
Constipation	• hydration / mobilization • laxative : sennosides, bisacodyl, LaxADay® • oxycodone / naloxone (Targin®) • methylnaltrexone (Relistor®)
Cognitive impairment	• ↓ dose • adjuvant analgesic • opioid rotation
Pruritus	• antihistamine
Urinary retention	• mobilization • tamsulosine (Flomax®) / terazosin (Hytrin®)

Opioid abuse

- Important to distinguish
  - Abuse = psychological dependence = addiction
  - Physical dependence
  - Tolerance
  - Pseudo-addiction
- Addiction is very uncommon in patients treated for chronic pain

Opioid abuse

Risk factors for opioid abuse

- Young age
- Dependence to other substances
  - tobacco
  - alcohol
  - illicit drugs
  - medications (e.g., benzodiazepines)
- Family history of drug or alcohol abuse
- Low socioeconomic status

Adjuvants

- "Adjuvant"
  - "Substance added to a medication to facilitate its action"
- "Adjuvant analgesic"
  - "Medication developed for an indication other than pain, but with analgesic properties in some circumstances"

(Lussier & Portenoy, 2003)

- Terms "adjuvant" and "coanalgesic" are obsolete and inappropriate
  - should be considered as "analgesics"

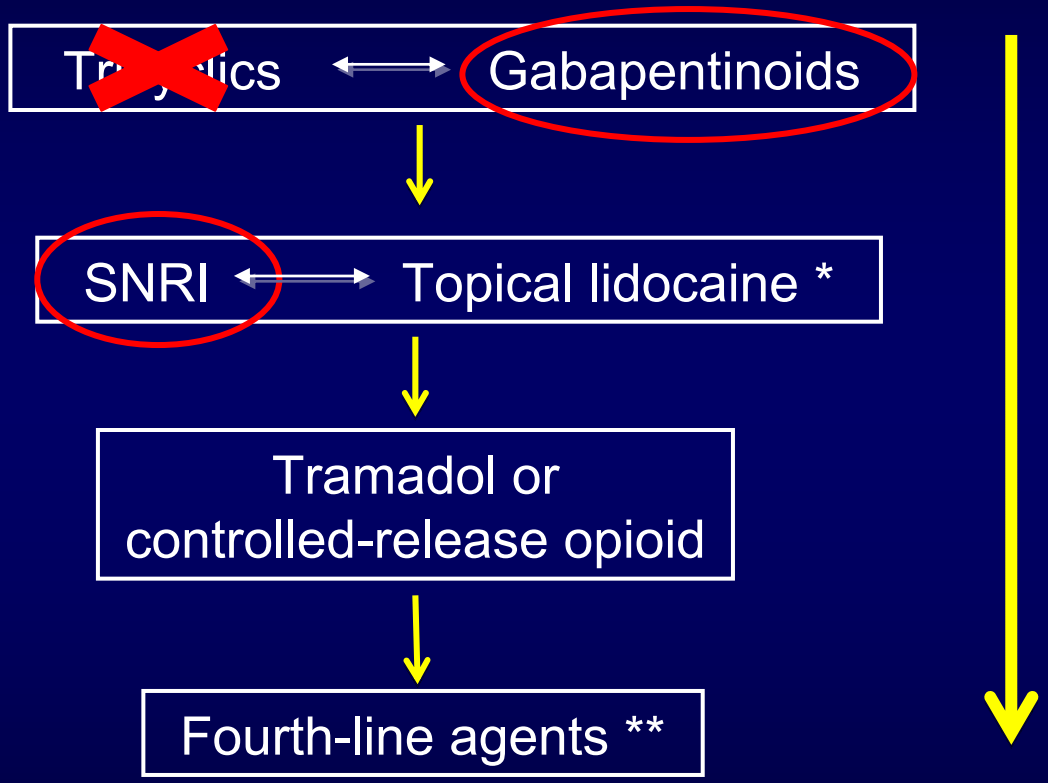
(Lussier & Beaulieu, 2010)

Pharmacological Management of Chronic Neuropathic Pain – Consensus Statement and Guidelines from the Canadian Pain Society

DE Moulin, MD; AJ Clark, MD, I Gilron, MD, MSc; MA Ware, MD; CPN Watson, MD; BJ Sessle, MDS, PhD; T Coderre, PhD; PK Morley-Forster, MD; J Stinson, RN, PhD; A Boulanger, MD; P Peng, MBBS; GA Finley, MD; P Taenzer, PhD; P Squire, MD; D Dion, MD, MSc; A Cholkan, CA; A Gilani, MD; A Gordon, MD; J Henry, PhD; R Jovey, MD; M Lynch, MD; A Mailis-Gagnon, MD, MSc; A Panju, MB, ChB; GB Rollman, PhD; A Velly, DDS, PhD

Pain Res Manage 2007;12:13-21.

Management of neuropathic pain



Add additional agents sequentially if partial but inadequate pain relief ***

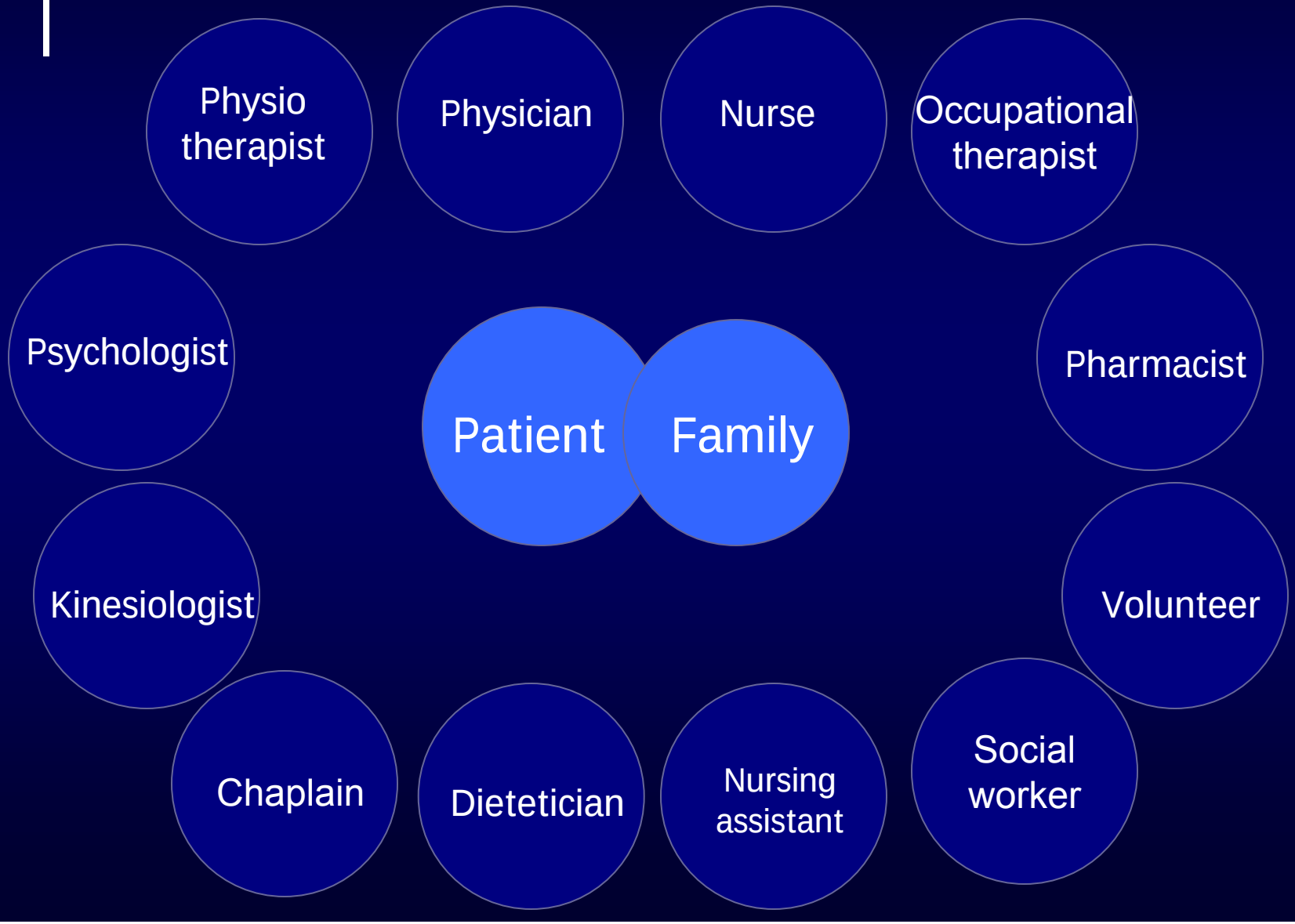
*5% gel or cream: useful for focal neuropathy such as post herpetic neuralgia; Lidocaine patch is not available in Canada.
**e.g., cannabinoids, methadone, lamotrigine, topiramate, valproic acid
***Do not add SNRI to TCA
TCA = tricyclic antidepressant; SNRI = serotonin-norepinephrine reuptake inhibitor

Moulin DE *et al. Pain Res Manag* 2007; 12(1):13-21.

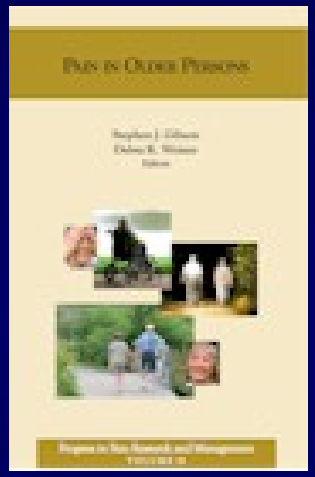
Interdisciplinary management

- Older patients are underrepresented in interdisciplinary pain clinics
- If interdisciplinary pain programs are adapted to specific needs of older patients, the response rate is as good as younger patients
- Given their multiple comorbidities, a small improvements obtained by better pain control can allow a significant improvement of quality of life
- An interdisciplinary team with expertise in geriatric medicine and pain medicine might be best suited to respond to older patients' specific needs

Interdisciplinary management



For more information …



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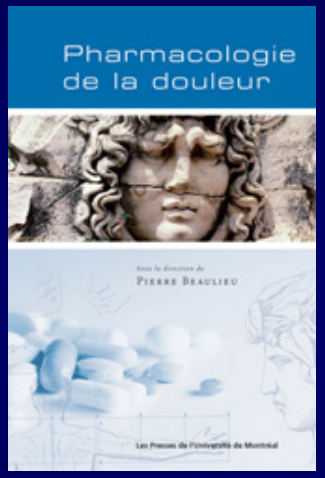

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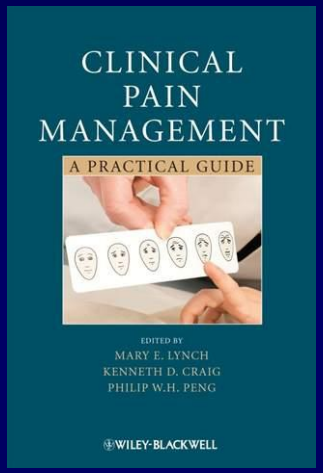

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