

PAIN MANAGEMENT IN THE ELDERLY

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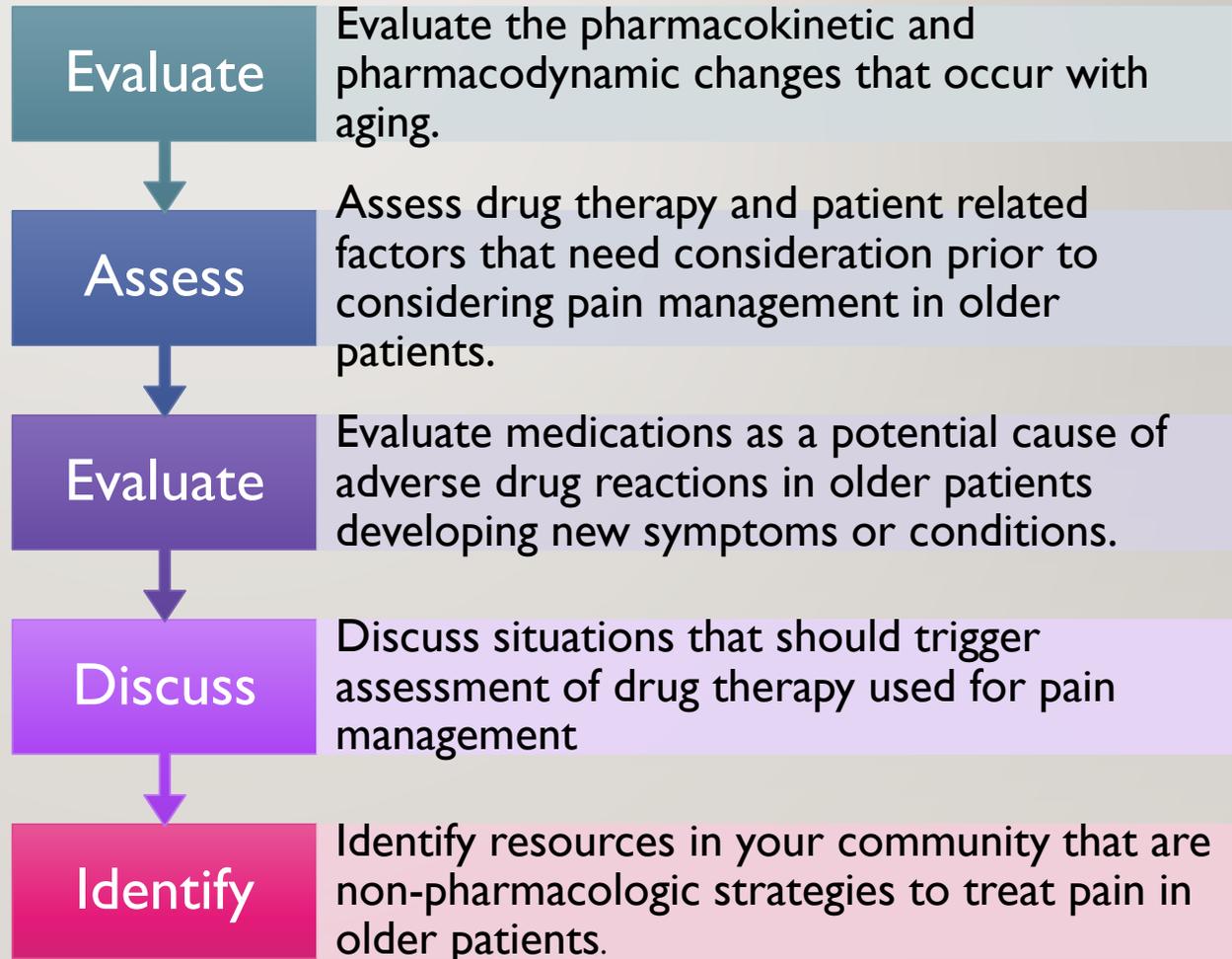
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OBJECTIVES



OBJECTIVE 1:

- Evaluate the pharmacokinetic and pharmacodynamic changes that occur with aging.

AGE-RELATED CHANGES

- Balance and gait
- Body composition
- Cardiovascular
- CNS
- Endocrine
- Gastrointestinal
- Genitourinary
- Hepatic
- Immune
- Oral Mucosa
- Pulmonary
- Renal
- Sensory
- Skeletal
- Skin/Hair

AGE-RELATED CHANGES

Balance & Gait

- Shorter stride
- Slower gait
- Fall risk
- Mobility Problems

Body Composition

- Less water
- More fat
- Changes in drug distribution

Cardiovascular

- Orthostasis
- Increase SVR / BP
- Hypertension

- CNS
 - Memory / processing
 - Sleep disturbances
 - Intellectual impairment
- Endocrine
 - Less estrogen, testosterone
 - Impotence
- GI
 - Slow motility
 - Reduced absorption of nutrients
 - Constipation

AGE-RELATED CHANGES

Genitourinary

- Vaginal atrophy
- Prostatic hypertrophy
- Incontinence

Hepatic

- Decrease drug metabolism

Immune

- Decrease response to infection
- Immune impaired

Oral mucosa

- Changes to taste

- Pulmonary
 - Reduced breathing capacity
- Renal
 - Reduced function
- Sensory
 - Reduced vision, smell, taste
 - Malnutrition
- Skeletal
 - Reduced bone mass
 - Fractures
- Skin / Hair
 - Thinning skin and hair

AGING RELATED CHANGES AND PAIN MEDICATIONS

OPIOIDS

Balance and gait

CNS

GI (constipation)

Pulmonary (COPD, asthma, or OSA)

Endocrine

Renal and Hepatic Dysfunction

NSAIDS

Renal

Cardiovascular

Gastrointestinal (GIB/GERD)

CNS

Balance and gait



PHARMACOKINETIC CHANGES: ABSORPTION

Reductions in

- Gastric acid secretion
- GI motility
- Absorptive surface area

Results in

- Increased contact time with drugs that can cause ulcers (e.g., bisphosphonates)
- Reduced absorption of drugs that require an acidic environment (e.g., iron salts)
- Reduced absorption of some nutrients that require active transport (i.e., B12, Iron, Ca, Mg)

Absorption unchanged for most drugs

PHARMACOKINETIC CHANGES: DISTRIBUTION

Reductions in

- Body mass
- Body water
- Albumin

Increases in

- Body fat

Results in

- Larger V_d of fat-soluble drugs (benzodiazepines)
- Increased free fraction (phenytoin, naproxen)

PHARMACOKINETIC CHANGES: METABOLISM

Reductions in

- Liver function
- CYP 450 enzymes

Results in

- Reduction in hepatic drug metabolism
- Increased drug toxicity

PHARMACOKINETIC CHANGES: ELIMINATION

Reductions in

- Renal blood flow
- Glomerular filtration rate (GFR)
- Tubular secretion

Results in

- Reduced renal elimination of drugs

PHARMACODYNAMIC CHANGES

Increased sensitivity
of medications to
receptors

Exaggerated
response to
medications

- Antihypertensives
- Diuretics
- CNS SE's

Increased risk of
drug-related
problems

PHARMACOKINETIC AND PHARMACODYNAMIC CHANGES: PAIN MANAGEMENT

- Start low and go slow
- Be aware of overall health, functional capacity, and general state of health
- Avoiding oral NSAIDS with HF, AKI/CKD, and ACS
- Cautious use of opioids with frail older patients
- Establish clear functional goals

COMMON PROBLEMS IN GERIATRICS

NEUROPSYCHIATRIC

- Cognition and aging
- Delirium
- AD/PD, or other neurodegenerative conditions
- Anxiety, depression, and insomnia



GERIATRIC SYNDROMES

- Frailty
- Infection
- Dizziness/Syncope
- Falls/Fractures
- Incontinence



OBJECTIVE 2

Assess drug therapy and patient related factors that need consideration prior to considering pain management in older patients.

**COMMON
DRUG-RELATED
PROBLEMS**

Drug interactions

Drugs without indications

Adherence

Adverse drug reactions

GUIDANCE ON MEDICATIONS TO AVOID



Beer's Criteria – list of potentially inappropriate medications in older adults
– based on potential adverse effects

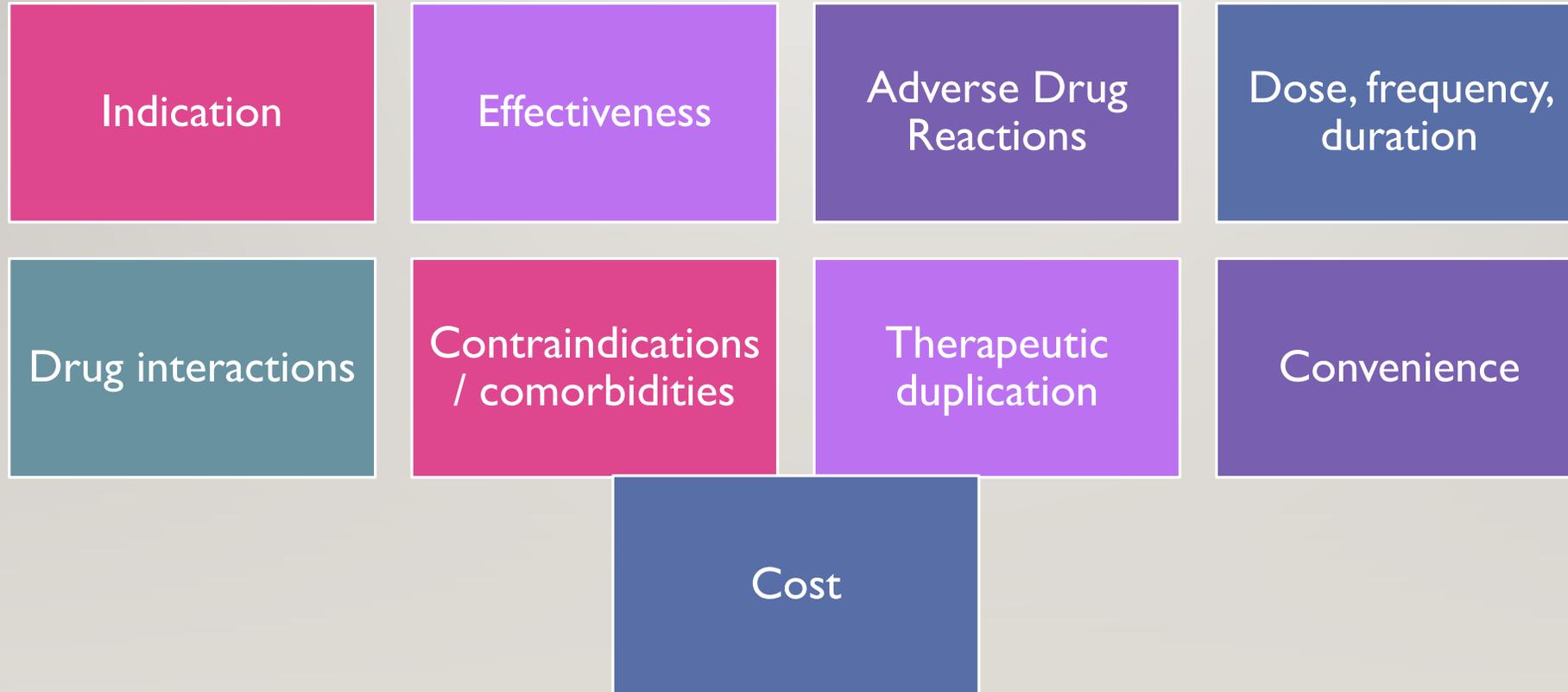


STOPP Criteria- list of meds to avoid
based on clinical outcomes



In Dynamed, search “Beers and STOPP/START Inappropriate Prescribing Criteria”

THE PHARMACIST'S ROLE: DRUG THERAPY ASSESSMENT



THE PHARMACIST'S ROLE: PATIENT FACTORS

Multimorbidity

Polypharmacy

Cognitive
Decline

Vision
Impairment

Hearing
Impairment

Falls

Functional
Decline

Frailty

Sarcopenia

EXAMPLES: MULTIMORBIDITY

Disease-Disease interactions

- Ex. HF causes changes in blood flow to the kidneys causing acute or chronic kidney failure

Disease-Drug interactions

- Ex. NSAIDs for gout exacerbations, worsens HF.

Drug-drug interactions

- Ex. Carbamazepine for seizure control starts taking apixaban for AF.

Therapeutic competition

- Ex. HF and urinary incontinence, diuretics worsens urinary frequency leading to urinary incontinence.

OBJECTIVE 3

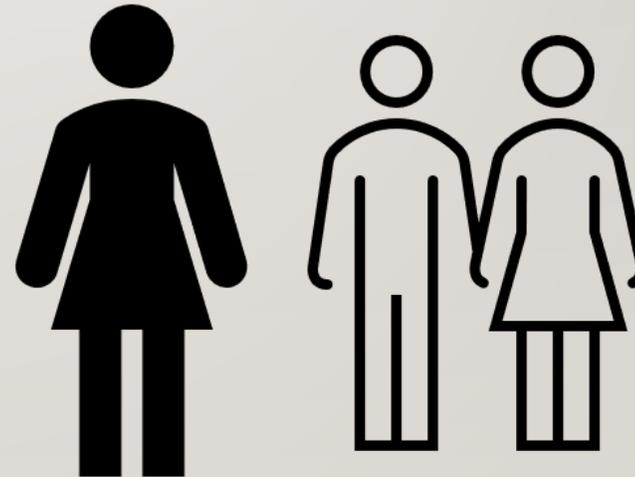
Evaluate medications as a potential cause of adverse drug reactions in older patients developing new symptoms or conditions.

REDUCE POLYPHARMACY TO AVOID INCREASED RISK FOR ADVERSE OUTCOMES

Polypharmacy is the simultaneous use of multiple medications to treat one or more conditions.

Most of the literature categorize as patients taking 5 or more medications.

More than 1 in 3 older adults use 5 or more prescription medications and this number is increasing.



POLYPHARMACY AND POTENTIALLY INAPPROPRIATE MEDICATIONS

- **Adverse Drug Reactions (ADRs)**
- In community dwelling older adults taking > 5 medications:
- 50% had possible drug-drug interactions, examples- opioids + benzos+ gabapentoids+ muscle relaxants
- 88% had an increased risk of experiencing an ADR
- Nursing home residents taking ≥ 9 medications had 2X as many ADRs compared to those taking less.
- Fatal ADRs are the 6th leading cause of death in hospitalized patients



POLYPHARMACY AND POTENTIALLY INAPPROPRIATE MEDICATIONS

Increased Healthcare Utilization

- In elderly patients (> 65 years old), those on a potentially inappropriate medication had a significantly higher hospitalization risk, more outpatient visit days, and higher medication costs.
- In a Veterans Study, patients > 65 years old, taking ≥ 9 medications have about 4X greater odds of an ADR-related hospitalization. These hospitalizations were likely preventable



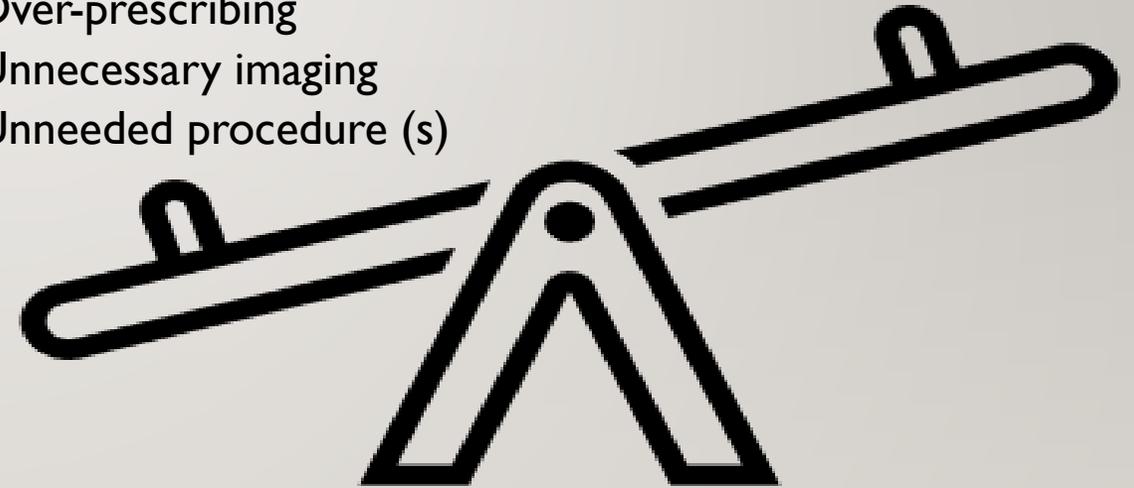
FIND A BALANCE
BETWEEN
UNDERTREATING
AND OVERTREATING
PAIN

Doing Too Much

Over-prescribing
Unnecessary imaging
Unneeded procedure (s)

Doing Too Little

Failing to reduce suffering
Delaying functional recovery

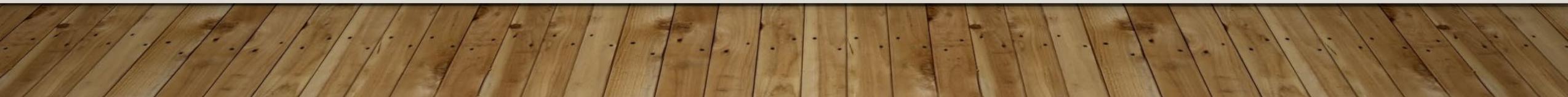
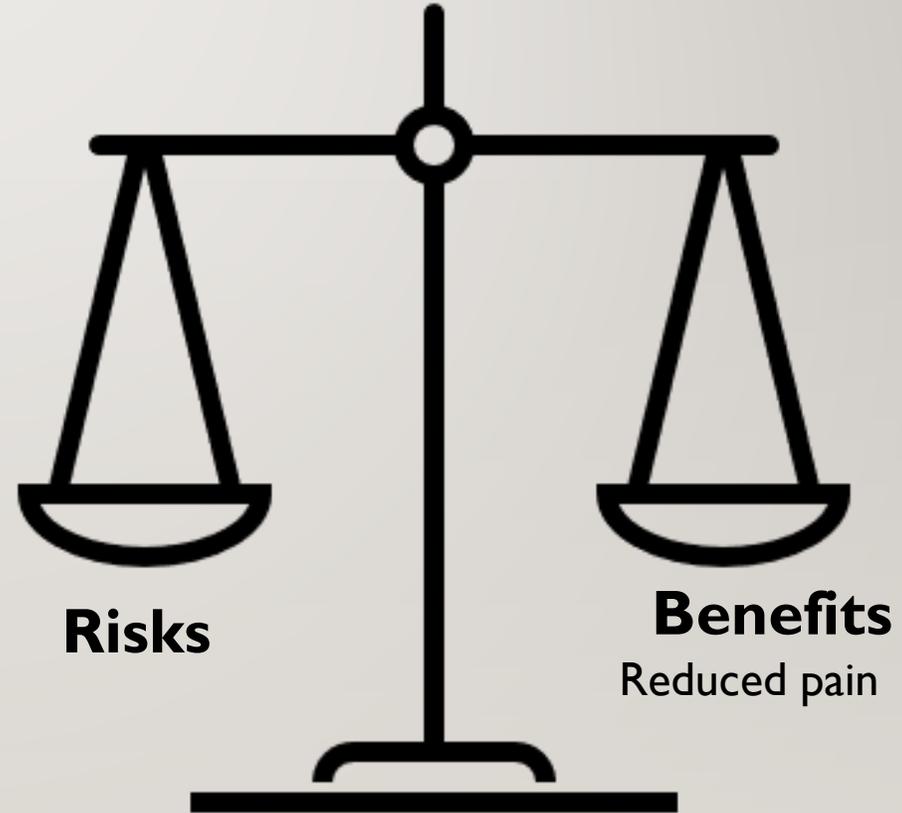


RE-ASSESS THE BENEFITS AND RISKS OF OPIOID USE AT EVERY VISIT



Constipation
Low T in men
Addiction
Abuse

Dependence
Misuse
Fractures
Overdose



OBJECTIVE 4

Discuss situations that should trigger assessment of drug therapy used for pain management

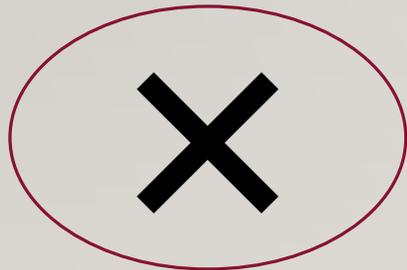
TIME FOR ACTION



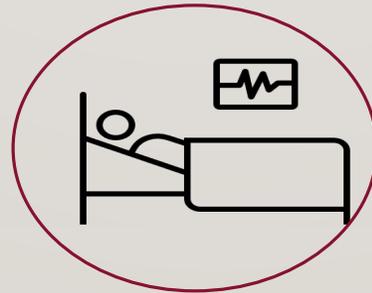
- Unmet goals of therapy
- Recent falls
- Delirium
- Dementia or cognitive impairment
- Limited life expectancy (e.g., hospice)
- Non-adherence/preference not to take medicines
- Clinical signs of ADRs

OTHER SITUATIONS WHERE MEDICATIONS SHOULD BE DISCONTINUED, TAPERED, OR ADJUSTED:

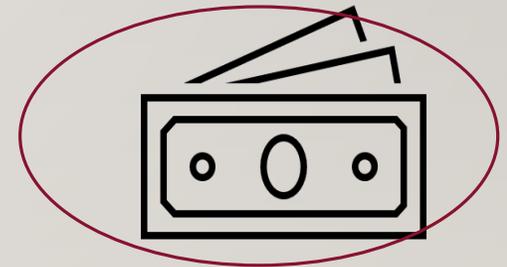
Increased medication errors and health literacy concerns



Low quality of life and freedom



Higher financial burden



TAPERING PLAN

Enlist the patient

Develop a collaborative plan to lower opioid dose

Taper slowly by 10% a week (slower taper for patients with very long-term use)





REDUCING OPIOID DOSES



Abrupt discontinuation of long-term opioid therapy can cause withdrawal symptoms and result in harm

Go	Go Slow
Personalize	Personalize the plan
Consult	Consult with experts as needed
Address	Address mental health needs
Encourage	Encourage patients

PRESCRIBE NALOXONE

- Recommend for all patients at risk:
- Opioid dose > 50 MME

- Renal or hepatic dysfunction
- Co-prescribed benzodiazepine or other CNS sedating drugs
- Patient smokes or has COPD, asthma, or sleep apnea
- Current or history of SUD, or overdose
- Recent incarceration and resulting loss of tolerance
- Reduction in dose of opioids

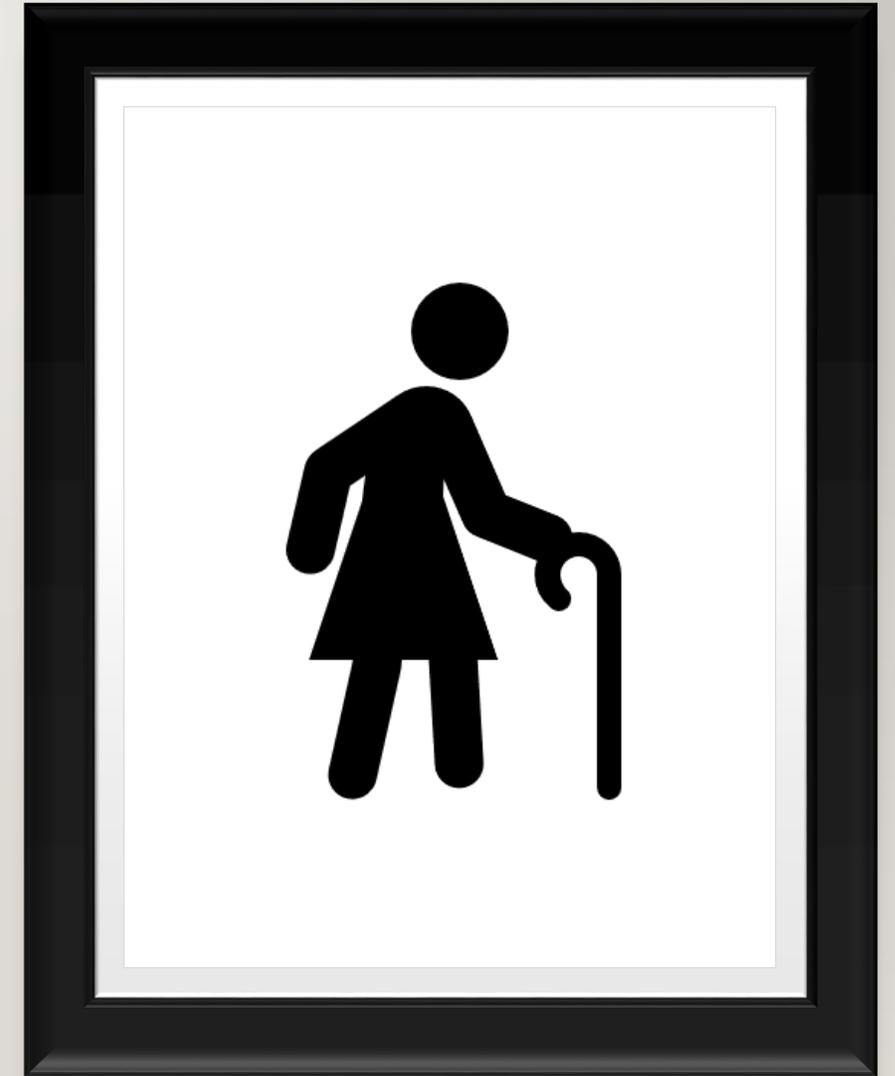


OBJECTIVE 5

Identify resources in your community that are non-pharmacologic strategies to treat pain in older patients.

EVIDENCE-BASED APPROACHES TO MANAGING CHRONIC PAIN

- Osteoarthritis
- Low back pain



OSTEOARTHRITIS

- Physical therapy
- Tai chi
- Massage
- Yoga
- Acupuncture
- Self-management



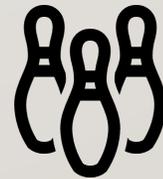
PHYSICAL ACTIVITY PROGRAMS

- Arthritis Foundation Aquatic Program



ACTIVE LIVING EVERYDAY (ALED)

- Participants choose their own activity and create an exercise program based upon their lifestyle and preferences.



ENHANCED FITNESS (EF)

- Physical activity to increase strength, activity levels, and mood.



FIT AND STRONG

- Participants attend classes focused on stretching, balance, aerobic, and endurance exercises.
- Available at the Pittston YMCA



WALK WITH EASE (WWE)- GROUP

- Pre-walk discussions followed by 10–40-minute walks



TAI CHI



- Moving for better balance
- Also helps prevent falls.
- Community based
- Active Adult Centers
- YMCA
- YouTube Videos

COMPLEMENTARY TREATMENTS

- Acupuncture



- Massage



LOW BACK PAIN

Tai Chi

Yoga

Acupuncture

Cognitive Behavioral Therapy

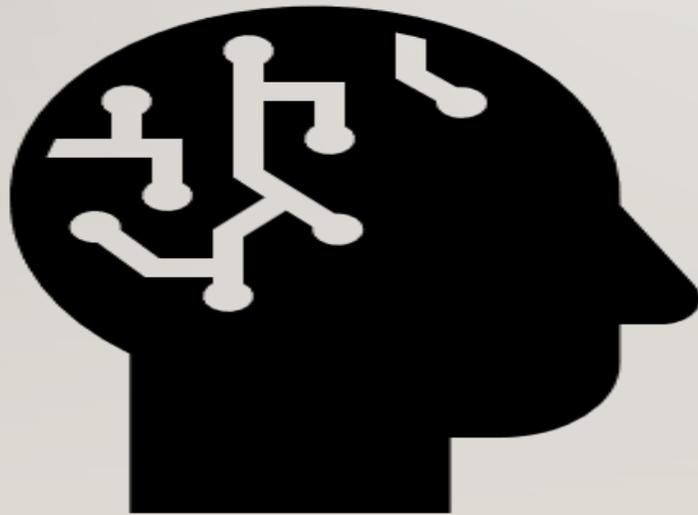
Mindfulness meditation

Self-management

FIND A THERAPIST

- Mindfulness behavioral therapy

<https://www.psychologytoday.com/us/therapists/mindfulness-based-mbct>



FIND A THERAPIST

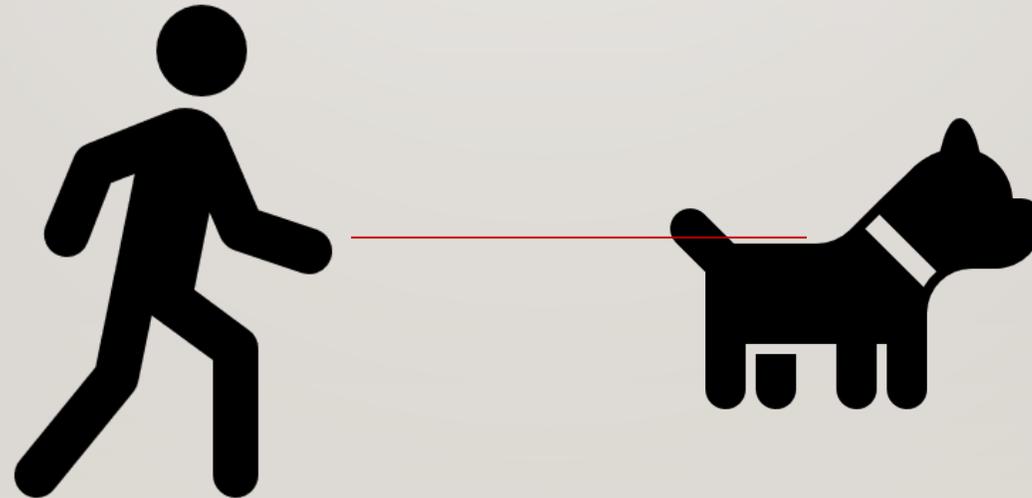
- Cognitive behavioral therapy

https://services.abct.org/i4a/memberDirectory/index.cfm?directory_id=3&pageID=3282



TIPS TO MOTIVATE

- Find ways to fit (insert activity) into your day



TIPS TO MOTIVATE

DO ACTIVITIES YOU ENJOY
TO MAKE IT MORE FUN



TIPS TO MOTIVATE

MAKE IT SOCIAL



TIPS TO MOTIVATE

IF THERE'S A BREAK IN YOUR
ROUTINE, GET BACK ON
TRACK



TIPS TO MOTIVATE

KEEP TRACK OF YOUR
PROGRESS



REMAIN ACTIVE

- Aerobic activity
- Build muscle strength
- Work on balance
- Get a mix of activity types at the same time
- It's never too late to start being active





QUESTIONS
