

Medication Essentials Group

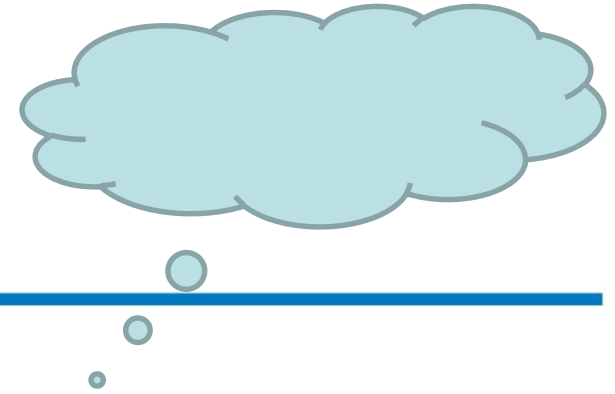
Developed and taught by Chronic Pain
Centre Pharmacists

Disclosure

- The pharmacists at the Chronic Pain Centre have nothing to disclose.

Session 1 Overview

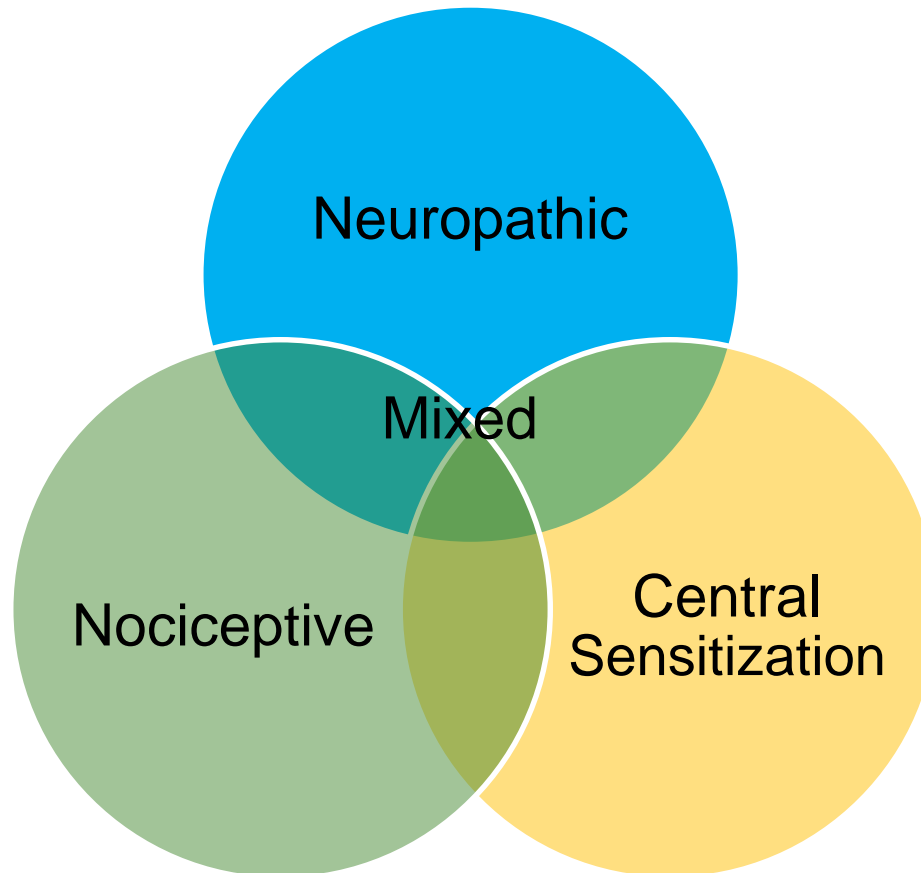
- Informed consent, questionnaire, understanding check
- Introductions
- Role of medications in overall chronic pain management
- Establish goals and monitoring plan for starting, continuing or stopping medications
- Review main classes of pain medications including over the counter, antidepressants, anti-epileptics, opioids, muscle relaxants
- Question and answer period
- Reflection -10 min break



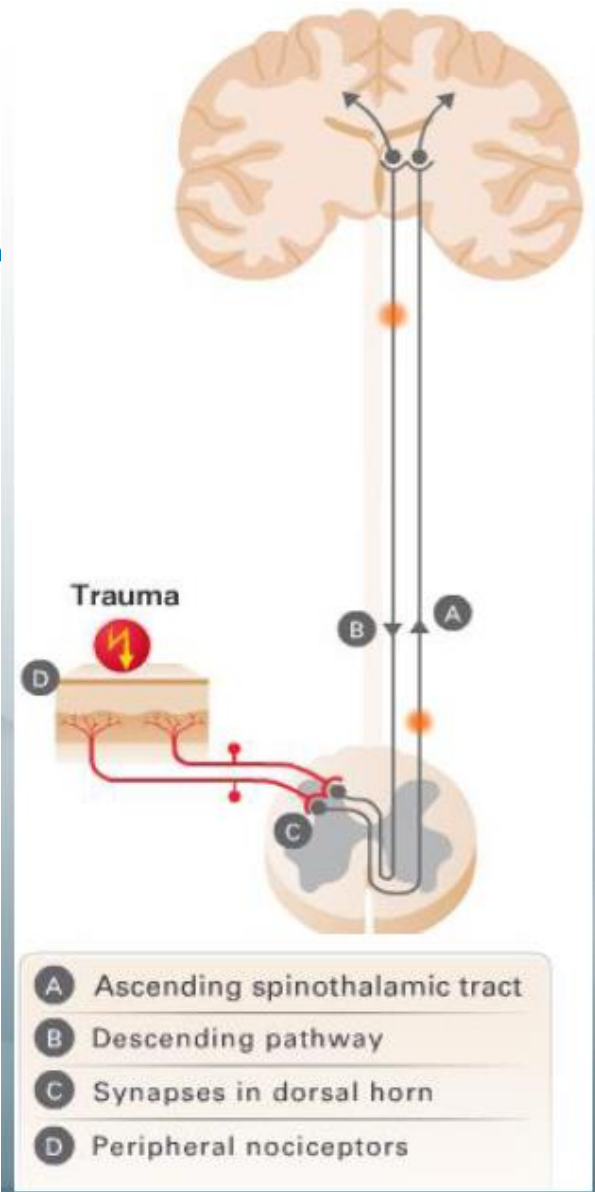
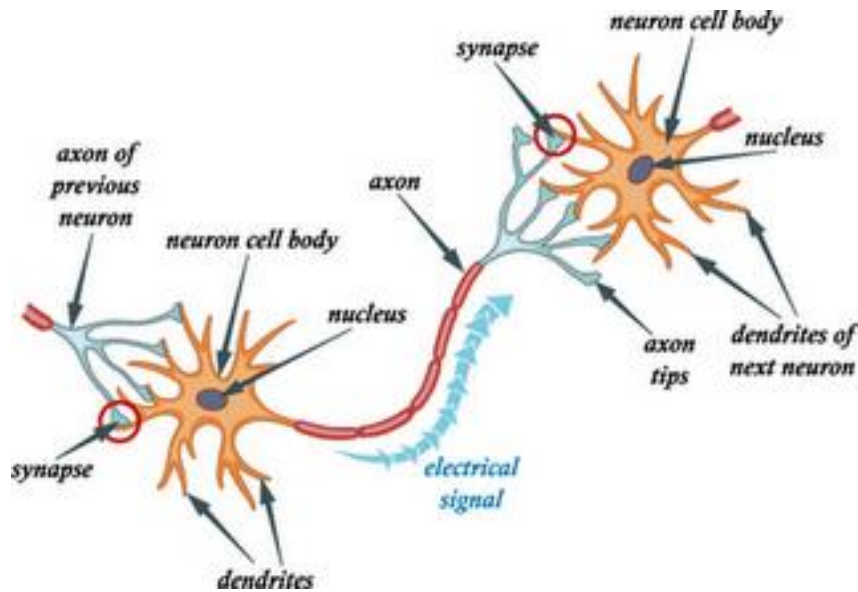
Keep in mind...

- We will be discussing various medications that could be used for management of pain and functioning.
- It is important to note that certain medications discussed may not be appropriate for you due to medical conditions, age, pregnancy status, drug interactions, etc.
- Healthcare providers use evidence based medicine and patient preferences to tailor therapy to YOU.
- Not everyone who tries a medication will have similar responses in terms of benefits and side effects.

Types of Pain



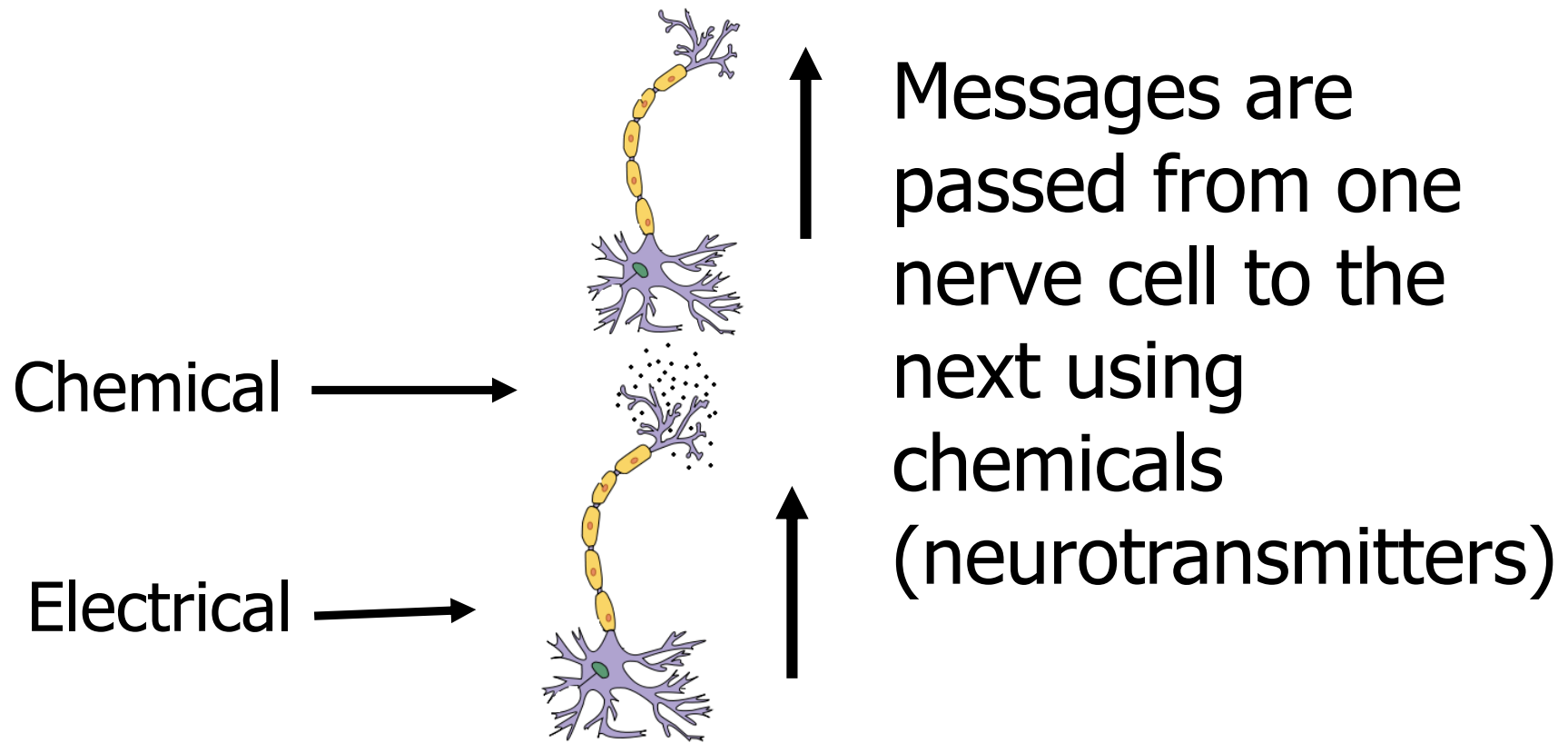
Pain Response



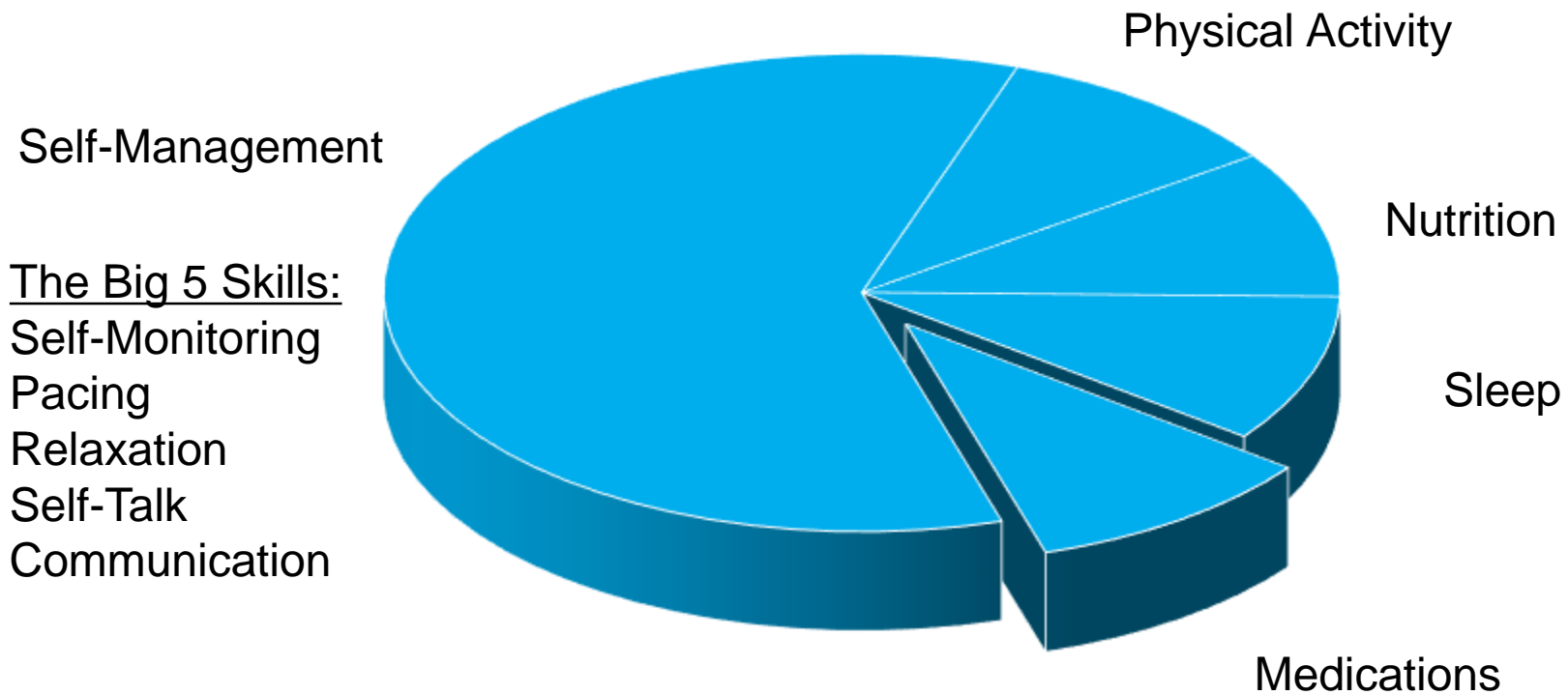
Video

- Brainman: Understanding pain and what to do about it
 - <https://www.youtube.com/watch?v=qEWc2XtaNwg>

How do Pain Medications Work?



Role of Medication



Self-Management

The Big 5 Skills:

- Self-Monitoring
- Pacing
- Relaxation
- Self-Talk
- Communication

Physical Activity

Nutrition

Sleep

Medications

Goals of Medication Therapy



Think about what YOUR specific goals are

Example SMART Goals

- My opioid medication is affecting my memory and my ability to return to work. In the next six months I would like to reduce it to a dose that does not impair my memory so I can do my job well.
- I want to start a medication to help reduce the nerve pain in my legs so I can be able to walk my dog every morning by the time that summer rolls around.

My goal for Medication Therapy...

Pain Scales – Intensity

On average, how would you rate your pain?

No pain

0 1 2 3 4 5 6 7 8 9 10

Pain as bad as could be

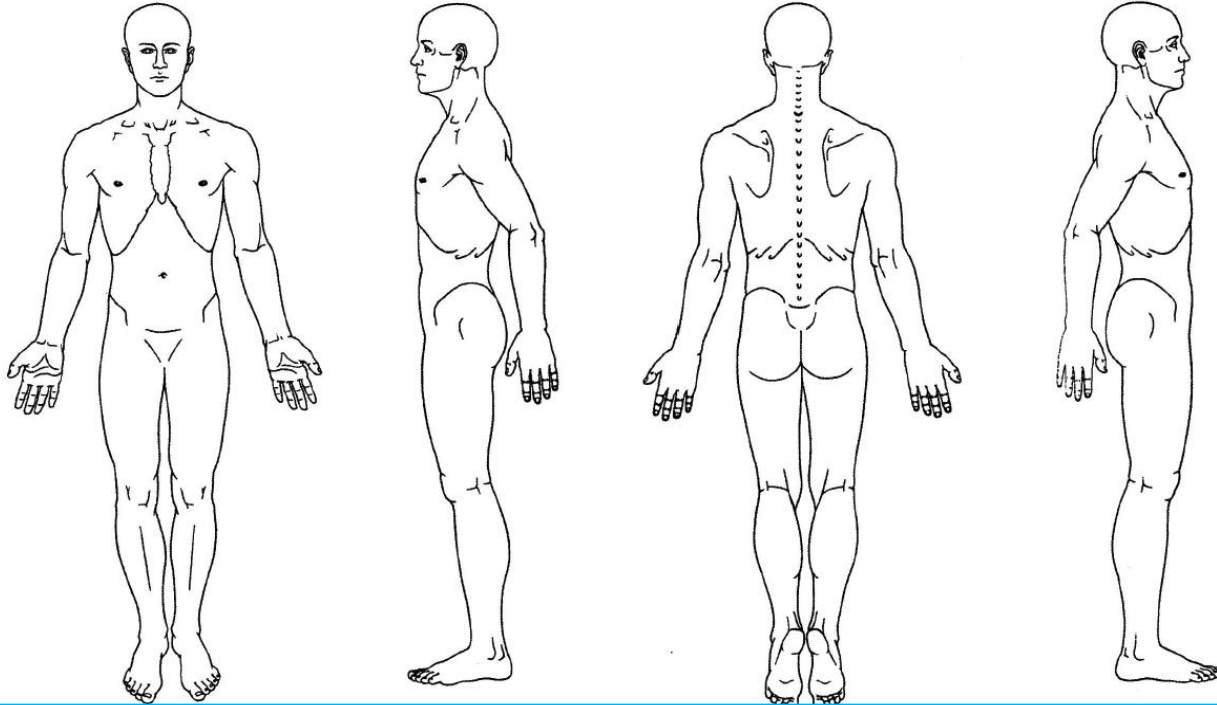


Mark the area on the drawing where you feel your pain. Include all affected areas. If your pain radiates, draw an arrow from where it starts to where it stops. Use the symbols listed below to further describe your pain.

Ache >>>>
Burning xxx
Itching ****

Numbness ++++
Stabbing ///
Tearing ----

Pins and Needles oooo
Throbbing #####
Other: _____ ~~~~



1. What number best describes your pain on average in the past week?

0 1 2 3 4 5 6 7 8 9 10
No pain Pain as bad as you can imagine

2. What number best describes how, during the past week, pain has interfered with your enjoyment of life?

0 1 2 3 4 5 6 7 8 9 10
Does not interfere Completely interferes

3. What number best describes how, during the past week, pain has interfered with your general activity?

0 1 2 3 4 5 6 7 8 9 10
Does not interfere Completely interferes

Goals of Medication Therapy

- 30% pain relief may be expected
 - Pain may decrease from 8/10 to 6/10
 - Decrease pain from severe to moderate
- Improve function and quality of life
- Weighing pain relief with acceptable side effects



“If” and “Then What”

- You develop a side effect?
- Don't achieve your goal?
- What will cause you to stop using the medication, what are you willing to tolerate before you continue?
- When will you re-evaluate your medication to decide if you still need it?

Chronic Pain Medications

- Important to discuss medication options with your treatment team and have a plan that is specific to you, your goals and your concerns.



<https://mypalmyrapharmacy.com/wp-content/uploads/2014/03/medication-review-palmyra-pharmacy.jpg>

Monitoring

- Remember medication goals
- Frequent monitoring of pain, functioning and possible side effects
- Only one medication change at a time



Chronic Pain Medications

- Are there any medications you have tried or are currently taking for management of your pain?
- Do you have specific questions you hope to be addressed today?

Chronic Pain Medication Classes:

- Acetaminophen
- Non-steroidal anti-inflammatory drugs (NSAID)
- Tricyclic Antidepressants (TCA)
- Serotonin Norepinephrine Reuptake Inhibitors (SNRI)
- Anti-epileptics
- Opioids
- Cannabinoids
- Muscle relaxants
- Topical creams
- Natural Health Products

Acetaminophen

- Tylenol®
- Well-tolerated
- Helps with pain, fever, NOT inflammation (swelling)
- Liver toxicity: increased risk with higher doses, chronic daily use, age, alcohol use, previous liver disease
- Max 4 grams/day (4000 mg/day)
 - if used on a daily basis, max 3 grams/day (3000 mg/day) recommended
 - Watch for hidden sources (e.g. cough and cold products, codeine products)

NSAIDs and COX-2 Inhibitors

- Non-Steroidal Anti-Inflammatory Drugs
- Ibuprofen (Advil[®], Motrin[®]), Naproxen (Aleve[®]), Diclofenac (Voltaren[®])
- Decrease prostaglandins (naturally-occurring chemicals in your body which cause inflammation)
- Used for inflammation, muscle and joint pain, migraines

NSAIDs and COX-2 Inhibitors

- Common side effects: nausea, stomach upset
 - Take with food
- Serious side effects: Increased risk of heart attack, stomach bleeding, kidney failure
 - Stomach protection with proton-pump inhibitor (PPI) eg. Pantoprazole (Pantoloc[®])
 - COX-2 Inhibitor: Celecoxib (Celebrex[®])
 - May be safer for stomach
- Prescription + over the counter + aspirin use
= increased risk of side effects

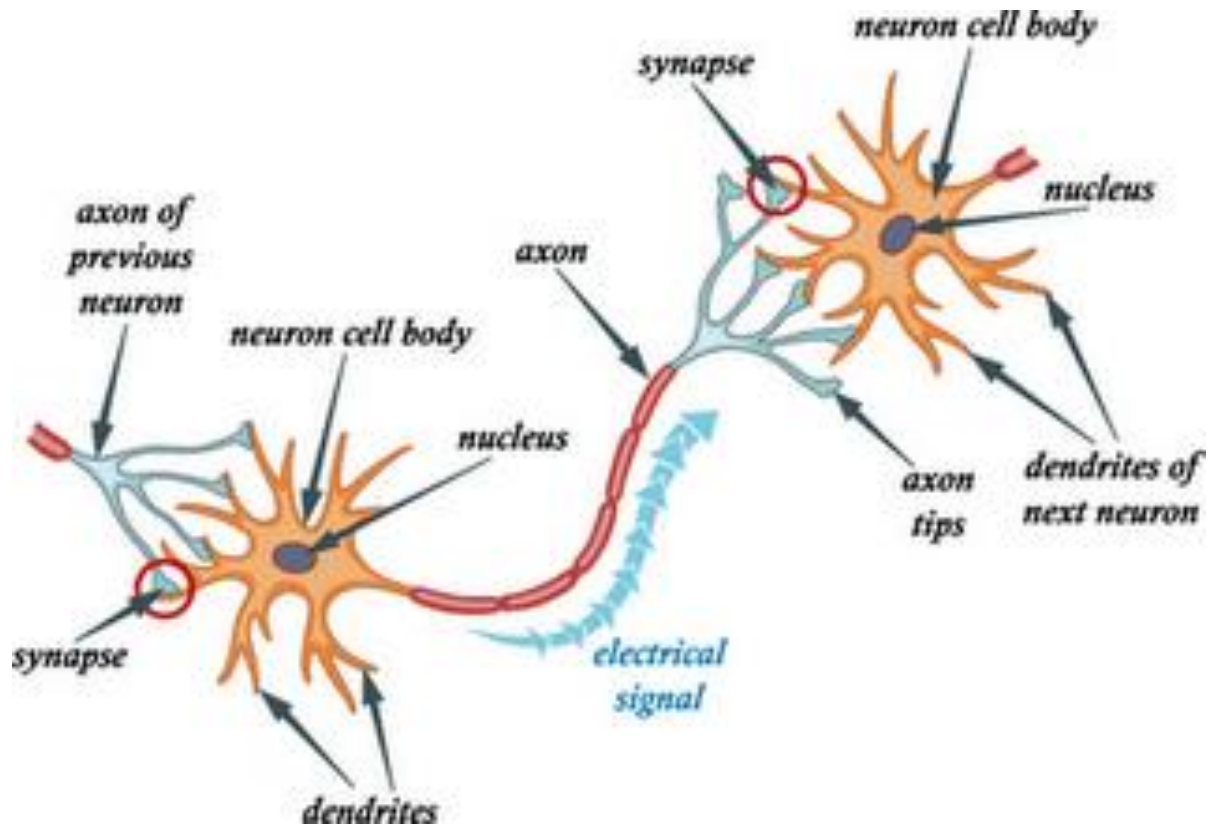
Medication Overuse Headache

- Using NSAIDs or acetaminophen more than 15 days/month
- Reducing your use may help you experience fewer headache days/month or a lower severity of headache. Others may experience no change.

Antidepressants: TCAs

- Tricyclic Antidepressants
- Amitriptyline (Elavil[®]), Nortriptyline (Aventyl[®])
- Increase serotonin and norepinephrine
 - naturally occurring chemicals in your body important for decreasing the likelihood that your brain will produce pain
- Often used for nerve pain or migraine prevention

Antidepressants: TCAs



Antidepressants: TCAs

- Common side effects:
 - Sleepiness (1 in 3), dry mouth (1 in 3), balance problems (1 in 5), blurred vision, constipation, difficulty urinating, weight gain (2-5lbs)
- Serious side effects:
 - irregular heartbeats, suicidal thoughts
 - Generally avoid use in elderly

Antidepressants: TCAs

- May take a few weeks for pain relief.
- A smaller dose is needed for pain than for depression.
- Slowly increase dose. Slowly decrease dose when stopping.
- May be helpful for sleep. Take at bedtime.

Antidepressants: SNRIs

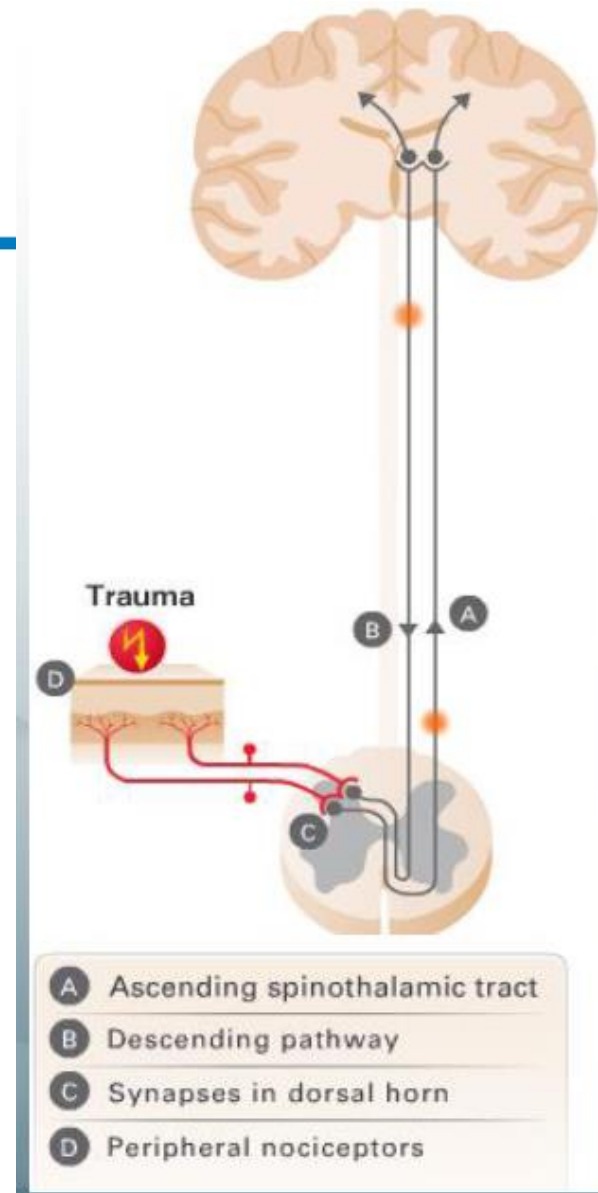
- Serotonin and Norepinephrine Reuptake Inhibitors
- Venlafaxine (Effexor[®]), Duloxetine (Cymbalta[®])
- Increase serotonin and norepinephrine
 - naturally occurring chemicals in your body important for decreasing the likelihood that your brain will produce pain
- Often used for neuropathic pain, fibromyalgia

Antidepressants: SNRIs

- Common side effects: nausea (1 in 4), dry mouth (1 in 10), headache (1 in 7), drowsiness (1 in 10), dizziness (1 in 10), difficulty sleeping (1 in 10)
- Be aware of withdrawal effects – do not suddenly stop taking.
 - Need to slowly decrease dose to avoid withdrawal symptoms including: flu-like symptoms, body shocks, poor sleep, worsening mood

Antiepileptics

- Gabapentin (Neurontin[®]), Pregabalin (Lyrica[®]), Topiramate (Topamax[®])
- Reduce the electrical or chemical messages that are sent to the brain
- Often used for nerve pain or migraine prevention



Antiepileptics

- Common side effects:
 - Drowsiness (1 in 7), dizziness (1 in 5), unsteadiness (1 in 7), unable to think clearly, changes in mood, weight gain (5-12 lbs)
- May take a few weeks for pain relief.
- Start with low doses and increase slowly.
- Do not stop suddenly. Important to decrease dose slowly when discontinuing.

Muscle Relaxants

- Baclofen (Lioresal[®])
- Act in the brain and spinal cord to relieve muscle stiffness and spasms
- Common side effects:
 - Drowsiness, dizziness, nausea, weakness

Muscle Relaxants

- Cyclobenzaprine (Flexeril®)
- Works similarly to some antidepressants since it increases norepinephrine and serotonin.
- Common side effects: drowsiness/fatigue, dizziness, dry mouth
- Monitor for very rare risk of serotonin syndrome if on other medications that also increase serotonin.
 - Symptoms include: restlessness, diarrhea, high blood pressure and heart rate, sweating, rigid muscles

Opioids

	Short-Acting	Long-Acting
Codeine	Tylenol #3 [®]	Codeine Contin [®]
Tramadol	Tramacet [®] , Ultram [®]	Durela [®] , Ralivia [®] , Tridural [®] , Zytram XL [®]
Buprenorphine		BuTrans [®] , Suboxone [®]
Morphine	Statex [®]	MS Contin [®] , M-Eslon [®] , Kadian [®]
Hydromorphone	Dilaudid [®]	Hydromorph Contin [®]
Oxycodone	Percocet [®] , Supeudol [®]	OxyNEO [®] , Targin [®]
Fentanyl patch		Duragesic [®]
Tapentadol	Nucynta IR [®]	Nucynta ER [®]
Methadone		Metadol [®]

Opioids

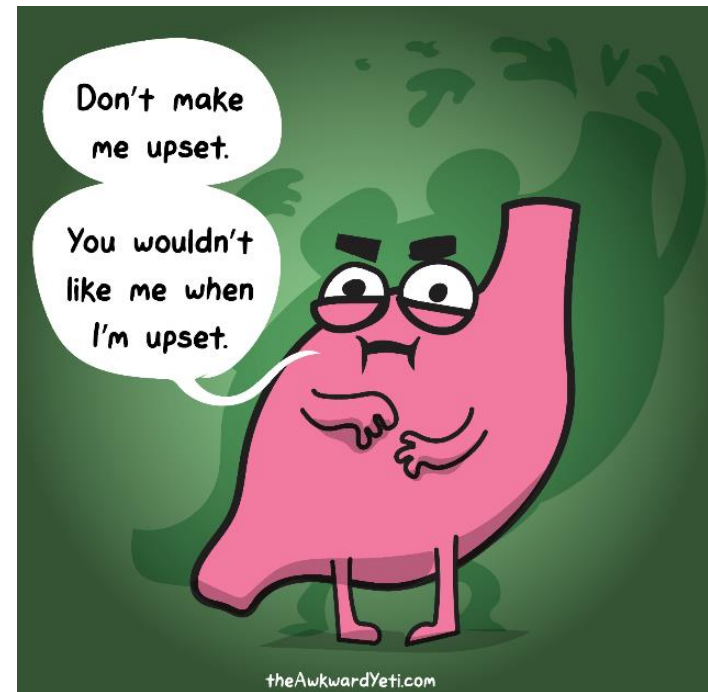
- Bind to opioid receptors in the body to help reduce pain
- Beneficial for acute pain but not much benefit for chronic pain
- Over the long-term, many side effects that may outweigh benefit



<http://www.trbimg.com/img-522fe2ac/turbine/la-apphoto-overprescribing-painkillers2-jpg-20130910/600/600x387>

Opioids – Side Effects

- Common side effects:
 - Nausea (28%), constipation (36%), drowsiness (29%), dizziness (22%), itchy/dry skin (15%), vomiting (15%)
 - May worsen headache or migraine (Medication Overuse Headache)



<http://theawkwardyeti.com/wp-content/uploads/2015/12/stomachsmash.png>

Opioids – Complications

- Long term complications:
 - Sleep apnea or worsened sleep quality
 - Decrease in sex hormones (libido, energy levels)
 - Decrease immune system
 - Decrease in memory and ability to think clearly
 - Increase risk of car accidents, falls
 - Increase risk depression



<https://www.hcrcenters.com/wp-content/uploads/2018/07/symptoms.jpg>

Question and Answer Time!

Homework Reflection

- Using the Medication Care Plan, list 2 medication related therapy goals you would like to accomplish during your time at CPC. How do you plan to do this?
- Write down 2 things you learned today.

Session #2: Medication Essentials Group

Session 2 Overview

- Reflection review, Questions from last week
- Topical Compounds
- Natural Health Products
- Cannabis
- Review role of opioids in pain management
- Discuss terms including physical dependence, tolerance, withdrawal, poisoning
- Pain management toolbox
- Resources
- Question and answer period -10 min break
- Feedback form, understanding check

Topical Agents

- Many pharmacies are able to create compounded creams using various medications including:
 - Diclofenac
 - Gabapentin
 - Lidocaine
 - Amitriptyline
 - Baclofen
 - Ketamine



<http://www.livingroompharmacy.ca/assets/images/contentImages/compounding12515181XSmall.jpg>

Topical Agents

- Benefits:
 - Little to no side effects
 - Tailor ingredients to meet your specific pain symptoms
 - No drug interactions
 - Able to treat a specific area
- Drawbacks:
 - Skin irritation
 - Can be expensive
 - Frequent application (usually 2-4 times daily)
 - Creams can feel sticky

Natural Health Products (NHPs)

- Include the following:
 - Vitamins and minerals
 - Herbal remedies
 - Homeopathic medicines
 - Traditional medicines
 - Probiotics
- Usually over the counter and do not require a prescription

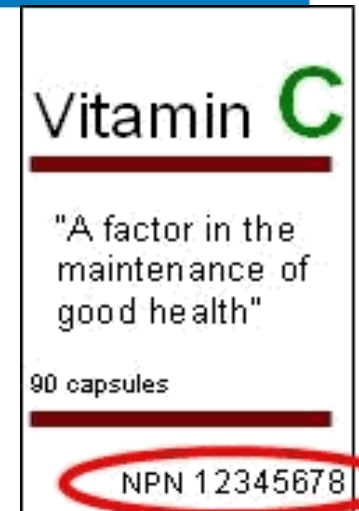


Natural Health Products

- Various supplements, vitamins and minerals which may be helpful in chronic pain or other related symptoms such as difficulty sleeping or mood.
- Talk to your pharmacist or physician to make sure they are okay to take with your other medications. Just because they are natural does not mean they are always safe.
 - Interact with other medications, side effects, effect medical conditions

Natural Health Products

- How to use NHPs safely:
 - Talk to a healthcare professional, especially if you are elderly, pregnant or breast feeding, serious medical conditions, using other medications
 - Use approved products (contain a NPN or DIN-HM number which ensure they are licensed)
 - Be skeptical of health related claims that seem too good to be true
 - Follow instructions



<https://www.canada.ca/en/health-canada/services/drugs-health-products/natural-non-prescription/regulation/about-products.html>

Natural Health Products

- Magnesium
 - May be helpful for headaches, chronic pain, constipation, sleep.
 - Citrate form most widely available.
 - Biglycinate form may be easier on stomach.
 - Start with 150mg daily, increase up to 600mg daily as tolerated
 - Caution with some medications-space 2 hours from other medications
 - May cause diarrhea or upset stomach

Natural Health Products

- Turmeric (anti-inflammatory)
- Omega-3 (anti-inflammatory)
- Riboflavin or Vitamin B2 (for migraine prevention)
- Coenzyme Q10 (for migraine prevention)
- Glucosamine (joint pain)
- Peppermint oil (for constipation and abdominal pain)

Cannabinoids



- Nabilone (Cesamet[®]), Tetrahydrocannabinol and Cannabidiol (Sativex[®])
- Bind to cannabinoid receptors in the body to help decrease pain
- May be helpful for nerve pain, sleep and nausea
- Common side effects:
 - Drowsiness (1 in 2), feeling high (1 in 3), dizziness (1 in 3), unsteadiness (1 in 3), mood disturbances (1 in 5), dry mouth

Cannabis

- Contains substances called cannabinoids including
 - THC (delta-9-tetrahydrocannabinol) –associated with intoxication and impairment
 - CBD (cannabidiol) –less psychoactive properties or impairment
- Short term effects:
 - Impair ability to drive, poor memory, mental health
- Long term risks:
 - If smoked, can damage lungs and make it difficult to breathe, affect mental health, addiction

Cannabis

Ways of using cannabis	When effects could begin	How long effects could last
Smoking/vaporizing	Seconds to minutes	Up to 6 hours*
Swallowing (food/capsules)	30 minutes–1.5 hours	Up to 12 hours*
Under the tongue	5–30 minutes	Up to 12 hours*

* some effects could last as long as 24 hours

Cannabis



- A lot of unknowns remain regarding the effectiveness and safety of cannabis in chronic pain
- Government of Canada resources:
 - <https://www.canada.ca/en/health-canada/services/drugs-medication/cannabis/resources.html>

https://www.bing.com/images/search?view=detailV2&id=047BAD850CE3E8F80EE409DD4503A92AA9554F7A&thid=OIP.oZ3EKNGTODBsAdWWoYKgjQHaFT&mediaurl=https%3A%2F%2Fwww.celebstoner.com%2Fassets%2Fcomponents%2Fphpthumbof%2Fcache%2FHealthCanada_thumb.cb99b7bf6c39cf4c018ccfbd1da2b142.jpg&exph=627&expw=875&q=health+canada+cannabis&selectedindex=1&ajaxhist=0&vt=0&eim=1,6

Cannabis

- Consider the following for your safety:
 - Delay cannabis until the age of 25
 - Choose a product that has equal or higher amounts of CBD compared to THC
 - Avoid smoking
 - Could become physically dependent or addicted
 - Avoid using with other substances (alcohol, opioids, benzodiazepines)
 - Avoid if you have mental health concerns, substance abuse or are pregnant or breastfeeding

<https://www.camh.ca/-/media/files/pdfs---reports-and-books---research/canadas-lower-risk-guidelines-cannabis-pdf.pdf>

Opioids

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Buprenorphine		BuTrans [®] , Suboxone [®]
Morphine	Statex [®]	MS Contin [®] , M-Eslon [®] , Kadian [®]
Hydromorphone	Dilaudid [®]	Hydromorph Contin [®]
Oxycodone	Percocet [®] , Supeudol [®]	OxyNEO [®] , Targin [®]
Fentanyl patch		Duragesic [®]
Tapentadol	Nucynta IR [®]	Nucynta ER [®]
Methadone		Metadol [®]

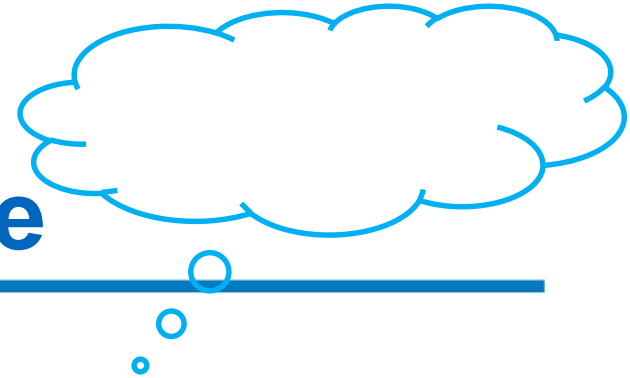
Opioids

- Bind to opioid receptors in the body to help reduce pain
- Beneficial for acute pain but not much benefit for chronic pain
- Lots of harms that may outweigh benefit



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Questions you might have



- Could I or my loved ones overdose on my opioids?
- Will I have to take these for the rest of my life?
- What happens if I take less?
- Why am I still having difficulty with controlling my pain despite increasing my opioid dose?

Video

- Doc Mike Evans “Best Advice for People Taking Opioid Medication”

<https://www.youtube.com/watch?v=7Na2m7lx-hU>



Best Advice for People Taking Opioid Medication

Fact or Myth?

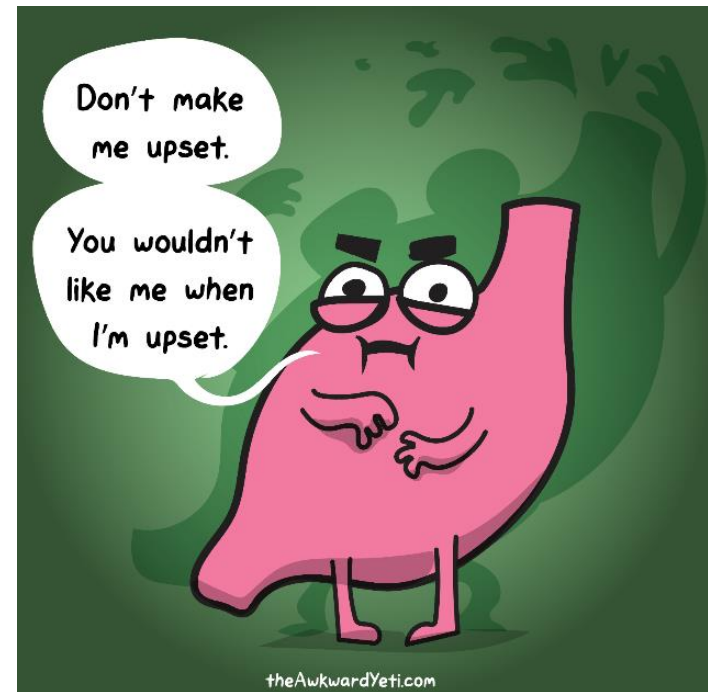
- If I take my opioid as prescribed I won't have any side effects.



<https://www.ocduk.org/overcoming-ocd/medication/medication-side-effects/>

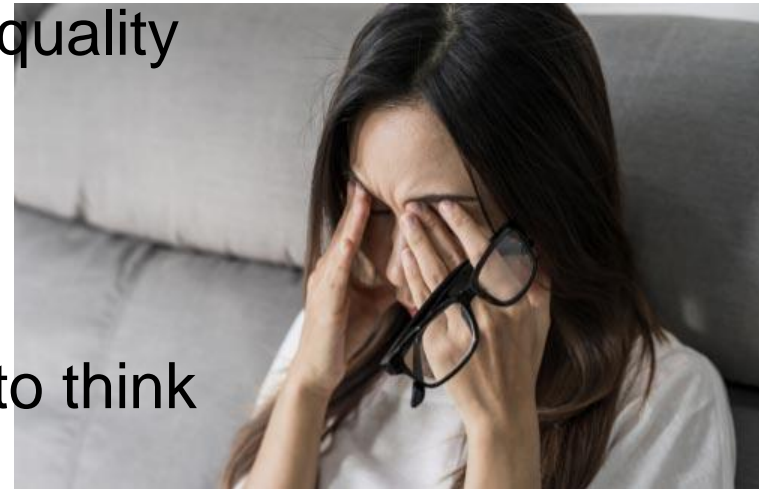
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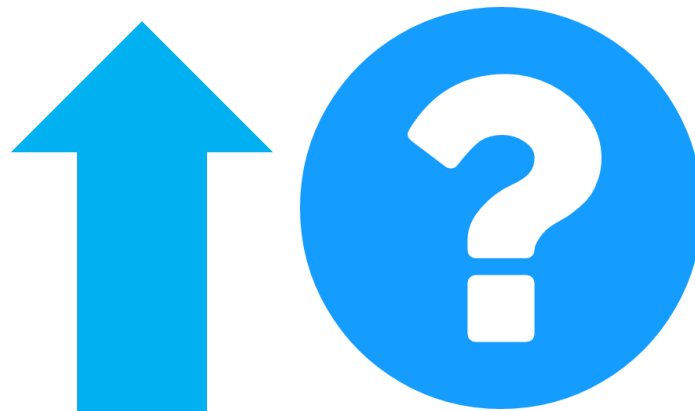
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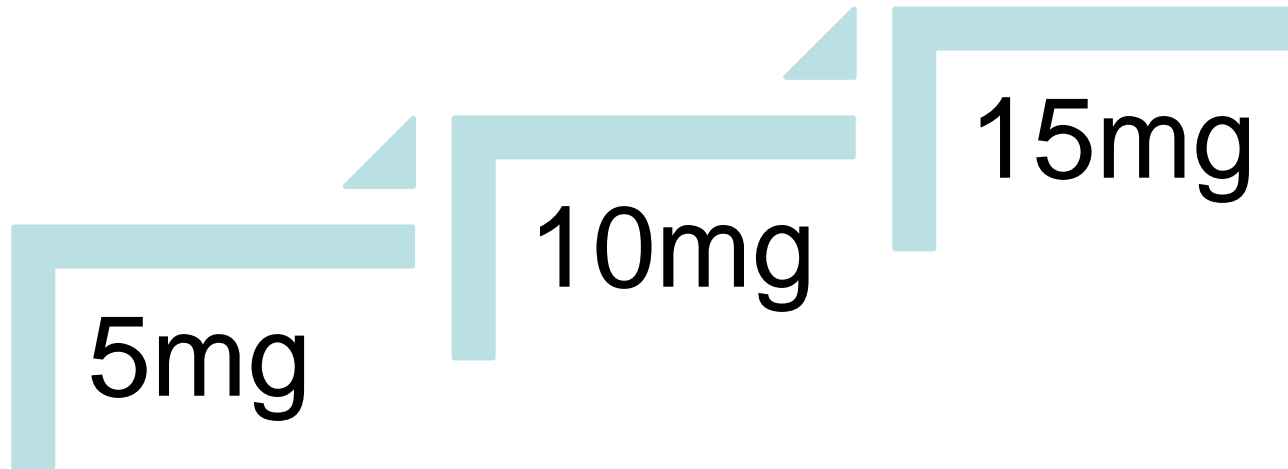
Fact or Myth?

- If my opioid isn't helping my pain anymore, it means I need a bigger dose.



Opioids: Tolerance

- Naturally occurring process of the body
- A given dose no longer produces the same effect over time and doses are increased.



Opioid-Induced Hyperalgesia (OIH)

- Hyperalgesia = increased pain sensitivity
- Phenomenon when opioids cause pain to worsen and spread to other areas of the body over time.
- Differs from tolerance. In OIH, increasing the dose may cause pain to worsen or you may experience pain from non-painful experiences.
- May be associated with agitation, delirium, difficulty to perform physical exercises.

Fact or Myth?

- If I stop my opioid suddenly, I will be in pain.



Opioids: Physical Dependence

- Natural occurring process of the body
- Suddenly stopping an opioid or reducing the dose significantly will produce withdrawal symptoms (e.g. nausea, diarrhea, chills, difficulty sleeping)
- Generally not life-threatening, but very uncomfortable
 - Within 1 day: physical symptoms may occur
 - Within 2 days: physical symptoms prominent
 - Within 3 days: symptoms likely reach maximum intensity

Physical Dependence

THE BODY BECOMES
DEPENDENT TO OPIOIDS.
Dependence to an opioid
happens to nearly everyone
taking this medication. The
body gets used to having the
opioid there.

WHEN A DOSE IS
DELAYED, WITHDRAWAL
PAIN SHOWS UP. But the
withdrawal pain can feel the
same as the original pain.

TAKING THE
OPIOID
RELIEVES
WITHDRAWAL
PAIN. It feels like
the original pain
is being relieved.
But it's actually
only withdrawal
pain being
relieved.

Opioids: Addiction

- Addiction is a word used to describe any behavior that is out of control in some way.
- Addiction includes presence of the 4 C's:
 - Craving
 - Loss of control of amount or frequency of use
 - Compulsion to use
 - Use despite consequences

Opioids: Addiction

- Risk of opioid addiction is 3-5.5% (in chronic pain)
 - Can be as high as 35% (in chronic pain)
- Combination of factors may cause addiction:
 - Genetic factors
 - How drugs interact with the brain
 - Environment
 - Mental health issues
 - Difficulty coping with thoughts and feelings

Opioid Use Disorder

- Problematic pattern of opioid use causing impairment or distress in the past year.
- Symptoms include:
 - Strong desire to use opioids
 - Difficulty decreasing opioid use
 - Increased tolerance, taking higher doses to achieve
 - Unable to work, go to school or take care of home
 - Unable to attend social events or activities

Treatments available to help manage

Opioids – Serious Risks

- Poisoning or Overdose
 - Thinking and breathing slow down, and this may cause brain damage, coma and death
 - Taking more than prescribed greatly increases your risk
 - Stopping or missing doses then resuming at previous dose
 - Mixing with alcohol or other drugs that cause drowsiness (e.g. sleeping pills) greatly increases your risk

Naloxone (Narcan[®])

- Antidote for opioid poisoning
- Reverses the effects of opioids by blocking the opioid receptors in the brain
- Safe to administer to anyone unless known allergy
- Administer outer thigh
- Works within 5 minutes
- Effects wear off within 30-60 minutes
- Store between 15-30 degrees, avoid light
- Expire within 2 years

Naloxone Kit

Contains:

- 3 vials of naloxone
- 3 safety syringes
- 3 alcohol swabs
- Gloves
- Breathing mask
- Brochure



Naloxone: AHS Video

- <https://www.youtube.com/watch?v=t46iWKxTpUM>

Naloxone

- Symptoms of an overdose:
 - Unresponsive
 - Slow or not breathing
 - Blue lips, fingernails
 - Cold, clammy skin
 - Slowed or no pulse
 - Gurgling snore like sounds
 - Vomiting
 - Seizures
 - Small pupils

How to Manage an Overdose

Stimulate – call 911

Airway – ensure no restrictions, open airway and begin rescue breathing or initiate CPR with compressions if directed by 911 dispatcher

Ventilation – Give 1 breath every 5 seconds, chest should rise with each breath

Evaluate the situation

Administer naloxone: Naloxone will take 2 – 5 minutes to kick in

Evaluate again – Administer another dose of naloxone if required and continue with rescue breathing/CPR until medical help arrives

Opioids – For Your Safety

- Extra caution required before driving
 - Do not drive until your dose is stable and you do not feel drowsy or impaired.
- Store your medications safely and securely
- Let those close to you know you are taking these medications
- Sign an Opioid Treatment Agreement with your doctor:
 - Discuss your risks for safety and addiction
 - Agree to only one doctor and one pharmacy
 - Agree to urine drug testing

Management of general side effects

- Dry mouth
 - Ice chips
 - Sugar-free gum or candy
 - Frequent sips of water
 - Sips of club soda prior to meals
 - Cold air humidifier
 - Good dental hygiene; regular brushing and flossing
 - Artificial saliva (eg biotene rinse)

Management of general side effects

- Sedation
 - Take medications at bedtime
 - For medications such as TCAs (eg amitriptyline), take dose 12 hours before you want to wake up to minimize morning drowsiness
 - Use lowest effective doses
 - Avoid using in combination with alcohol, other medications that cause drowsiness (eg sleep aids)
 - May improve over time
 - Ensure proper sleep hygiene (eg go to bed and get up same time everyday)

Medication Tips

- Start low and go slow
- One change at a time
- Always ask if unsure
- Never stop medications abruptly
- Realistic goals
- Weigh pain relief with acceptable side effects



More Medication Tips

- Over-the-counter and herbal products have drug interactions and side effects
- Medications are often used in combination because they work in different ways
- If one doesn't work or you have side effects, it may still be worth trying another medication
- Response is highly variable
- Medications = one tool in your toolbox

Tools that Change the Messages



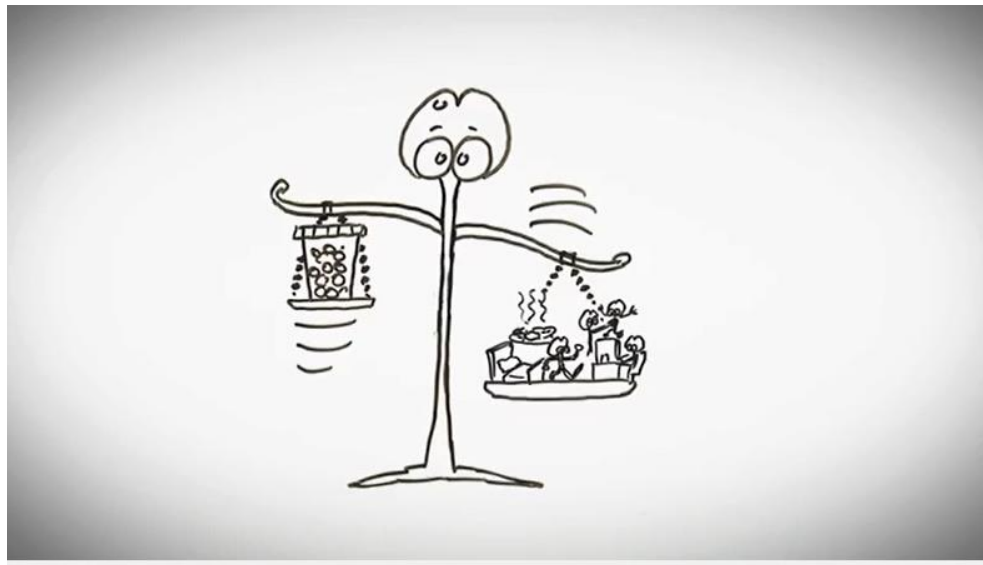
Question and Answer Time!



Resources

- Understanding Pain: Brainman Stops his Opioids

<https://www.youtube.com/watch?v=MI1myFQPdCE>



Understanding Pain: Brainman stops his opioids

Resources

- Government of Canada Cannabis
<https://www.canada.ca/en/services/health/campaigns/cannabis.html>
- AHS Naloxone Resources
<https://albertahealthservices.ca/info/Page15586.aspx>
- Chronic Pain Management Lecture Series
<http://www.albertahealthservices.ca/services/Page2790.aspx>
- Online health information for Albertans
<https://myhealth.alberta.ca/>