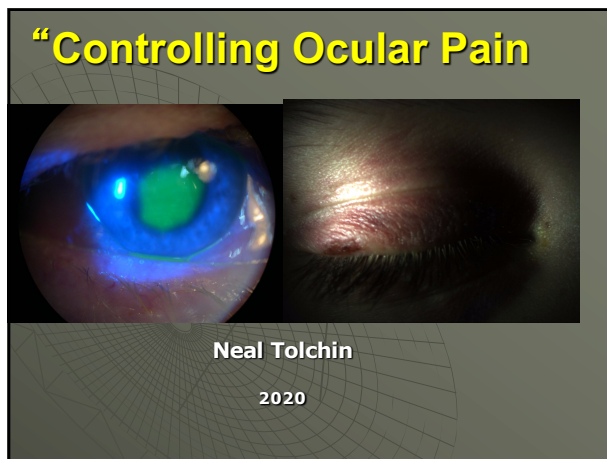




1



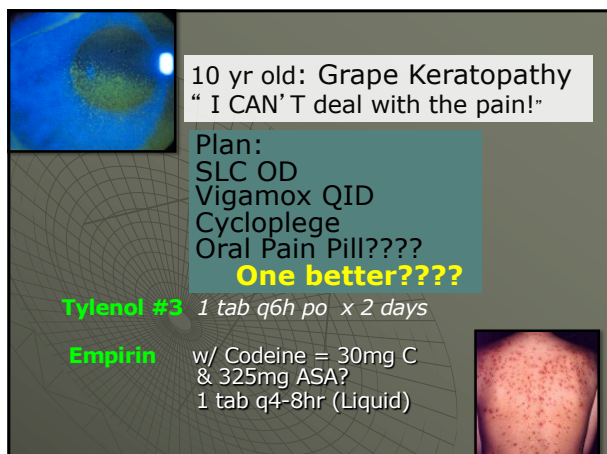
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6

The American Academy of Pain Medicine

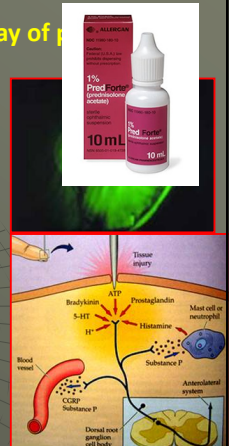
1. Eudynia
2. Maldynia

- ◆ **Eudynia** (nociceptive pain)
 - Aka... normal physiologic response to an event/injury
 - Acute & “beneficial”
 - Tylenol, works on nociceptive receptors (CNS)

7

Eudynia: Physiological pathway of pain

1. Injury → peripheral nociceptors
2. synapse in the dorsal root ganglion →
3. signals of pain to the brain
4. inflammatory mediators are released
5. again stimulate the nociceptors,
6. Releases Substance P



8

The American Academy of Pain Medicine

- ◆ **Eudynia** (nociceptive pain)
 - ◆ normal physiologic response to injury (muscle or soft tissue)
 - ◆ acute, but can also be persistent (e.g., cancer pain).
 - ◆ Sprains
 - ◆ Fractures
 - ◆ Cuts

9

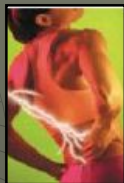
The American Academy of Pain Medicine

- ◆ **Maldynia** (neuropathic pain)
 - Lesions or dysfunctions in nervous system
 - Not well measured
 - Doctors have difficulty correlating pathology to level of pain

10

The American Academy of Pain Medicine

Maldynia (neuropathic pain) often results in significant dysfunction it is not well measured with our current testing abilities

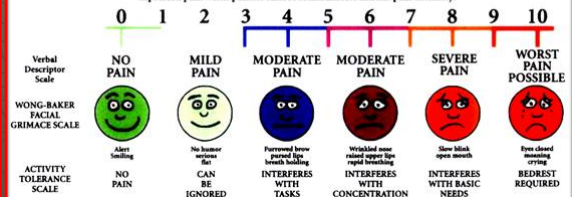


11

Drug addiction and maldynia pain
Pain doctors dilemma????

UNIVERSAL PAIN ASSESSMENT TOOL

This pain assessment tool is intended to help patient care providers assess pain according to individual patient needs. Explain and use 0-10 Scale for patient self-assessment. Use the faces or behavioral observations to interpret expressed pain when patient cannot communicate his/her pain intensity.



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Types of Pain (Oral) Meds

1. NSAIDS (Topical and oral)
 - ASPIRIN
 - IBUPROFEN
2. Acetaminophen
3. Narcotics

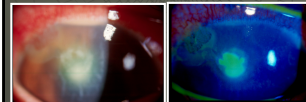
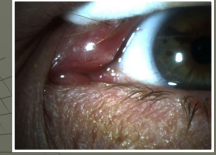
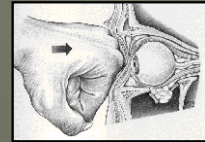
PAIN ASSESSMENT CHART

Schedules of Controlled
Substances Act 1970

13

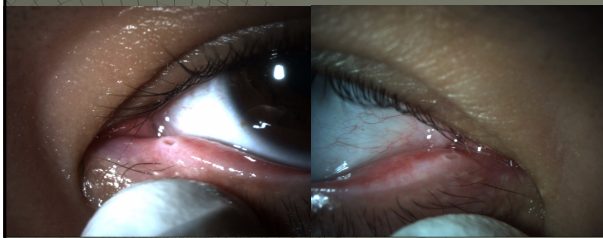
Ocular Pain

1. Trauma
2. Surgical (notify MD)
3. Conjunctiva
4. Lids/lashes
5. Lacrimal system
6. Cornea
7. Iritis / Hyphema



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Ocular Pain



7/23/20

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Oral Pain Medications

- ◆ REVIEW
 1. ASPRIN (ASA & Ibuprofen types)
 2. ACETAMINOPHEN
 3. RX for NARCOTIC

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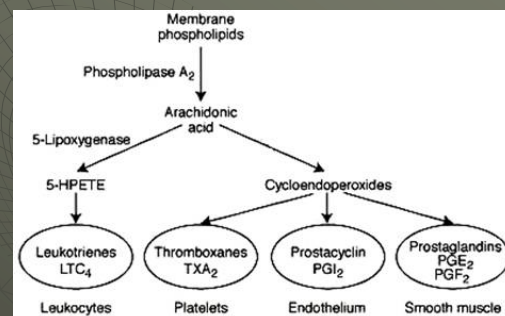
16

Oral Pain Medications: Aspirin & NSAIDS

- ◆ 4 actions (ASA & NSAIDS)
 1. Analgesic
 2. Anti-pyretic
 3. Anti-inflammatory
 4. Anti-platelets
- ◆ Uses
 - HA's, muscle aches, "pains"
 - Inhibit clotting
- ◆ COX (inhibitors)

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Arachidonic acid pathway



18

18

I. Aspirin

Aspirin

Acetylsalicylic acid (300-500mg/tab)
Limited for mild pain
81mg (baby) for anti-clotting

+ CEILING EFFECT! (law of diminishing returns)
DEAD @ 30grams
Optometry????

Dose

1 tab 400mg qid (PO)

40,000 tons Rx' d/yr



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Aspirin



20

Aspirin

ASPRIN → HOW THE NAME CAME ABOUT

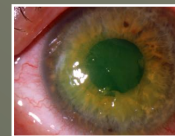
A = Acetyl chloride
SPIR = spiraea ilmaria (plant from which salicylic acid was derived)
IN = familiar name ending for medicines in 1800's



21

To add an oral agent

- Plan:
 - Vigamox/zymar
 - Topical NSAID
 - Bandage SCL
 - ASA
 - Bayer 400mg QID PO x 2 days
 - Is it rational???



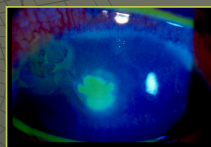
22

22

NSAIDS

NSAIDS

- ~20 kinds in the markets
- All reversibly bind COX₁ & COX₂
- ~19% have GI upset
- + CEILING EFFECT



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IBUPROFEN



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What is the issue?

- ◆ GI
- ◆ ASTHMA
- ◆ BLEEDING



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Side effects NSAIDS / ASA

GI upset 15 – 20 %
Worsening of asthma
Bleeding episodes
Rash

Contraindications to NSAIDS / ASA

Active GI disease
Bleeding disorder
Asthma
Pregnancy or Lactation
Chronic KIDNEY / LIVER disease
Post surgery
HTN (?)



26

To add an oral agent....

- ◆ 55 yr old male
- ◆ Double vision & HA (ting)
- ◆ DM & HTN
- ◆ SLE; clear
- ◆ Fundus: NPDM ou
- ◆ IMP:
 - CN #3 paresis
 - Secondary HA
- ◆ Plan:
 - Sed Rate
 - Motrin
 - ◆ 400 mg 1 tab q6-8 hr (PO)



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New NSAID's: COX2 inhibitors

COX2

- ◆ less GI upset
- ◆ QD/BID dosing
- ◆ Less influence on clotting
- ◆ Celebrex (sulfa derivative)
 1. May ↓s the ability of ACE inhibitors
 2. Don't use with **adv** KIDNEY disease
 3. DO NOT use **ASTHMATICS**
 4. 100 (PO BID) to 200 mg po (qd)



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AN IRITIS THAT WON'T GO AWAY

- ◆ REFERRED FOR AN IRITIS EVAL
- ◆ On PF 1% qid (os)
- ◆ Prolensa qd
- ◆ 3+ / 4+ photophobia
- ◆ A "7 – 8" on pain scale
- ◆ 2+ conj inj
- ◆ NO SPK
- ◆ 1 + cells



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Add an oral agent....

- ◆ IMP:
 - mild iritis
 - Intense eye pain!?!?
 - KEY...inflam causes PAIN
- ◆ PLAN:
 - ↑ PF 1% q1h OS (awake)
 - Prolensa bid
 - Celebrex
 - ◆ 200mg 1 tab q 24 hrs (PO)
 - RTC 3 days



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NSAIDS - MYTH

- ◆ NSAIDS are less effective for pain than narcotics but are safer.

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Case: "Excedrin & Right sore lid"

- ◆ Past 4 days LT eye sore
- ◆ 35 female
- ◆ Va 20/20
- ◆ **Self medicating**
 - Excedrin...not sure what kind
 - "makes me feel better and eye less red"



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32

Acetaminophen (Tylenol)

TYLENOL

- ◆ Analgesic similar to ASA
- ◆ Anti-pyresis via hypothalamus
- ◆ NO anti-inflamm properties!!!
- ◆ DO NOT use with alcoholics (hepatic failure)
- ◆ Why is tylenol a wonder drug????....



33

33

Acetaminophen (Tylenol)

Uses:

1. Can't use ASA or NSAID (allergic)
2. NO GI issues (ulcers)
3. **SAFE** for children and kids
4. SAFE for pregnancy
5. SAFE for asthmatics
6. NO chance of Reye syndrome

Side Effects

- ◆ Liver impairment
- ◆ Caution: **≥3** alcohol drinks/day
- ◆ Allergies
- ◆ **Leading drug**
 - **CYP450/NAPQI**



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To add an oral agent

- ◆ Plan:
 - Vigamox/Zymar
 - Topical NSAID
 - Bandage SCL
 - Tylenol
 - ◆ 1 Tab 500mg QID (PO)
 - ◆ Warn pt about > 4gm/day



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What about Pregnancy

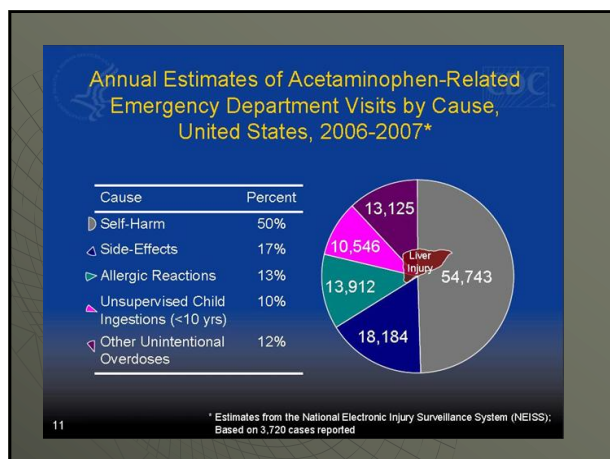
Classes

- "A" fine for preg women
- "B" OK to use (prenatal vitamins **Tylenol & Alphagan** etc...)
- "C" drugs shown to be harmful to the fetus
- "D" have significant risk to fetus *"only when the alternative is worse"*

Remember: get more people involved in the decision ☺

Safefetus.com

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- Ibuprofen** (Motrin, Advil, Nuprin)
 - Advil = 200, 300, 400, 600 mg q6-8 hrs
 - Motrin = 400 mg Q 4-6 hrs
 - Nuprin = 100 mg Q 4-6 hrs
 - Can use at 6 months of age**
- Indomethacin** (Indocin)
 - 25, 50 mg TID (**ADULTS only**)
- Anaprox** (Aleve)
 - 220, 275, 550 mg Q 6-8 hrs (550 starting dose)
- Aspirin** (Bayer)
 - 1 TAB q 3-4 hours (up to 6/DAY)
- Celebrex**
 - 100 mg BID or 200 mg (QD)
- Acetaminophen** (Tylenol) 250 & 500MG
 - Regular 2 tabs (q 4-6 hrs) NO more than 12/DAY
 - Extra strength 2 pills (q- 4-6 hrs) NO MORE 8/DAY
 - Kids (Chewable):** 2-3yrs (2 tabs); 4-5 yrs (3 tabs); 6-8yrs (4 tabs) 9-10 yrs (4 tabs); 11-12 yrs (6 tabs)

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DEA Number

Must have a number issued by the federal gov't

500.00 dollars / 3 years OHIO

800-882-9539 DEA (renewal)

Allows doctors to Rx scheduled medications

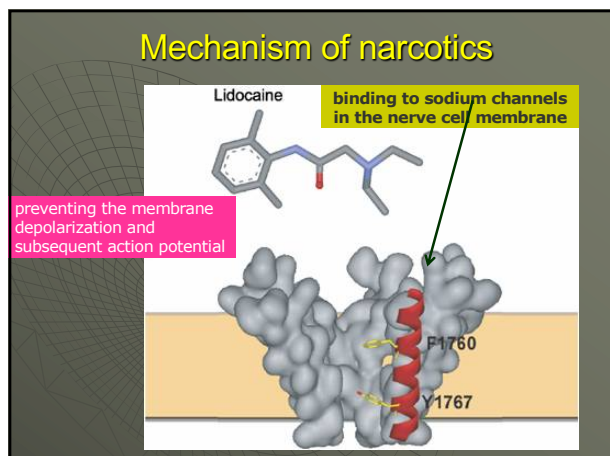
What are the scheduled drugs?

- Which ones can we Rx?

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New Registration FEE effective 11-01-06.
New assignment for Type A Registrants
www.deadiversion.usdoj.go

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Classes of Narcotics

Natural Opiates

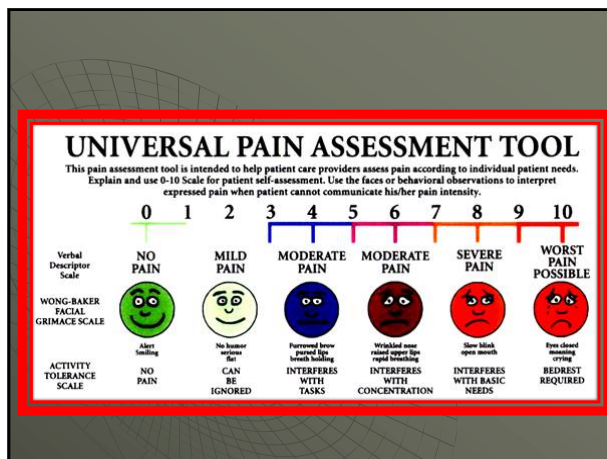
- Morphine
- Full agonist to CNS receptors
- Heroin
- Methymorphine " Codeine "

Synthetic Opiates

1. Meperidine "Demerol"
2. Propoxyphene "Darvocet"
3. Oxycodone "Percocet"
4. Hydrocodone "Vicodin"
5. Methadone

Controlled Substances Act 1970...

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Controlled Substances

Schedule I

- High abuse liability & **NOT** approved medical uses
- Marijuana, THC, LSD, Heroin, Peyote, Cocaine

Schedule II.....use for optometry?

- Have a HIGH potential for abuse
- Physical & Psychological dependence (severe)
- aka "Narcotics" → **NO NETILLS NO CALL INS**
- Oxycontin, Oxycodone (Percodan & Percocet), Meperidine (Demorol), Methadone, Hydromorphone, Morphine, Methylnorphine, Mepergan, Phenobarbital, Ritalin, Amphetamines, **VICODIN**

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Controlled Substances

Schedule III

- Carry some potential for abuse
- Less severe physical dependence
- HIGH psychological dependency
- Can be called in BUT 5 refills X 6 months**

Examples:

- Tylenol #1, #2, #3**
- #4**, Anabolic steroids, Amphetamines, Barbiturates, Opium, Phendimetrazines (adipost, Anorex-SR, Appecon, Melfiat, Obezine, Phendiet)

45

Controlled Substances

Schedule IV

- Very low potential for abuse & min dependence
- Can have on 5 refills in 6 months
- High medical use (in terms of value)
- can call in RX's

Examples:

- Talwin, Talacen**, Xanax, Valium, ChoralHydrate, Chlordiazepoxides (Librium), Flurazepam (Dalmane), Lorazepam (Ativan), Meprabamate (Deprol) Restoril, Halcion, Ambien

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Controlled Substances

Schedule V

- Minimal potential for abuse
- Are subject to state and local regulations
- States can not lessen Fed'l laws BUT MAY toughen Fed'l laws**

OCT's

Examples

- NSAIDS, Acetaminophen, Aspirin**, Benadryl, Night Quil, Robitussin (Codeine) Neurotin (anti-epilepsy)

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OXYCONTIN

Oxycodone (Percodan, Percocet, Tylox, Oxycontin)

- Schedule II narcotic**
- 10-12X analgesic effect of codeine
- HIGH addiction**
- Moderate to severe pain
- OxyContin: taken every 12 hours: 10, 20, 40, 80 & 160 mg**

Oxycontin / Tylenol = Percocet, Endocet, Roxicet & (Tylox = 5mg Oxy & 325/500mg Tylenol)

Oxycontin / ASA = Roxiprim, Endodan & Percodan (4.5mg Oxy & 325 ASA)

Oxycontin / Ibuprofen = Combunox

Oxycontin (con't release) = OxyContin, Endone, OxyNorm, Parcolone, OxyFAST, Supeudol & Roxicodone

48

Vicodin

In October 2014: DEA rescheduled it to a Schedule II, instead of Sch III
- due to risk of misuse & abuse

Tylenol 500mg / 325 mg



49

Specific Narcotics



50

Specific Narcotics

Hydrocodone

- **SCHEDULE II Narcotic**
- often combined with Tylenol
- 6X analgesic effect of Codeine



Lortab = 2.5, 5.0, 7.5 mg H & 500mg Tylenol
Lorcet = 7.5mg H & 650mg Tylenol
Hydrocet = 5mg H & 500mg Tylenol

Dosing = 5mg q4-6hrs; no more 8/day
7.5mg q4-6hrs; no more 5/day



51

Specific Narcotics

Tylenol 2 & 3 & 4; Emperin / Elixir (liquid)

Schedule III narcotic

very useful in optometry

Max amt of Tylenol 4000mg/24hrs
+ CEILING EFFECT



52

Specific Narcotics

Tylenol #2 = 15mg Codeine & 300 mg Tylenol

Tylenol #3 = 30mg Codeine & 300mg Tylenol

Tylenol #4 = 60mg Codeine & 300mg Tylenol

Emperin w/ Codeine = 30mg C & 325mg ASA

DOSING = 1 tab q4h

Elixir = liquid codeine & liquid Tylenol
15ml PO q4-6hrs prn

child >2yrs old (23-31 kg)= 7.5ml q4-6hrs
(16-22 kg)= 5.0ml q4-6hrs



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Specific Narcotics

Propoxyphene (Darvocet, Darvon, Darvon-N)

Schedule IV Narcotic

PULLED OFF MARKET!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

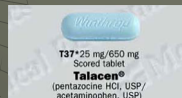


54

Specific Narcotics

Pentazocine (Talwin NX, Talacen)
less respiratory effects
weak analgesic comparable to ASA & Tylenol
Naloxone counteracts morphine like effects
Schedule IV narcotic

Talwin NX = 50mg P & 0.5mg Naloxone
Talacen = 25mg P & 650 Tylenol



55

Narcotics: Side effects

1. CNS Depressant or Stimulant
2. Light-headedness
3. **Sedation**
4. Nausea/vomiting...esp in ambulatory patients
5. Inhibits gastric mobility (constipation)
6. Mood elevation
7. **Respiratory depression (most serious)**

56

Finger nail to the cornea

28 years old
"wrestling with his sons"
Night & Day contacts
Hx: + ulcers (gastric) & IBS
VA: 20/60
SLE: + abrasion, no cells/**no infiltrate**
retina clear
Plan:?????



57

PAIN Management (if you chose)

- ♦ 1 -3 day duration
 - ♦ Mild - moderate pain (short-term)
1. **Ibuprofen** 400mg q4h
 2. **Tylenol** 1 tabs 500mg q4-6h
 3. **Tylenol #3** 1 tab q4h x 3 days
30mg Cod/ 300mg Tylenol
 4. **Vicodin** 1 tab q4-6h x 3 days
5mg H & 500 Tylenol
 5. **Lortab 7.5** 1 tab q4-6h X 2 day / 500mg Tylenol

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PAIN Management

- ♦ 1 -3 day duration
- ♦ Mild - moderate pain (short-term)

Plan:

1. SCL ...?????
2. Vigamox qid
3. Nevanac tid
4. Tylenol 500 mg qid po
5. Homatropine 5% in office
6. RTC 2 Days

59

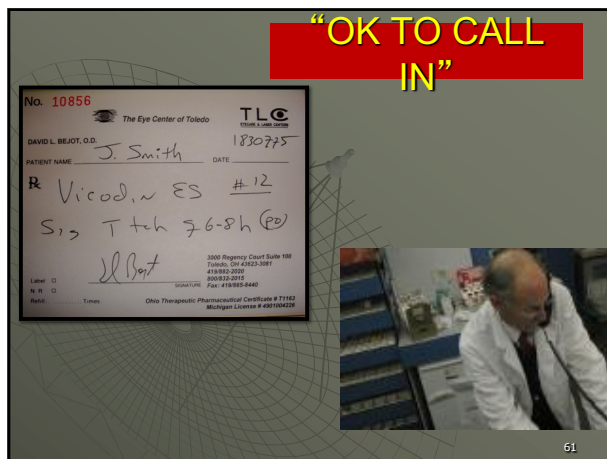
PAIN Management

- ♦ 1 -3 day duration
- ♦ Mild - moderate pain (short-term)

Plan:

1. SCL ...?????
2. Vigamox qid
3. Nevanac tid
4. **Vicodin ES** 1 tab q6-8h(po) prn
7.5 H & 750 Tylenol
5. Homatropine 5% in office
6. RTC 2 Days

60



61

Meds for mild pain

Drug	Dosing	Onset	Duration
Aspirin	650 mg	30 minutes	3 to 4 hours
Acetaminophen	650 mg	15 to 30 minutes	3 to 4 hours
Ibuprofen	200 to 800 mg	30 minutes	4 to 6 hours
Naproxen	250 to 275 mg	60 minutes	6 to 12 hours
Indomethacin	25 to 75 mg	30 minutes	4 to 12 hours
Piroxicam	10 to 20 mg	1 to 2 hours	24 hours

62

Meds for moderate pain

Tylenol #3	30 mg codeine/300 mg APAP	one to two every 4 hours maximum 12 tabs in 24 hours
Vicodin	5 mg HCD/500 mg APAP	One to two every 4 to 6 hours maximum eight tabs in 24 hours

63

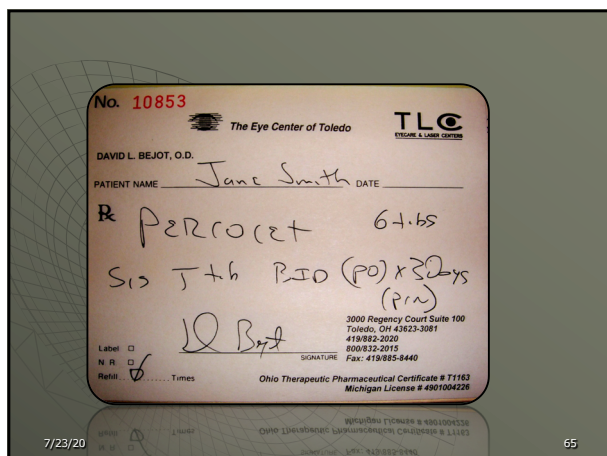
PAIN Management

- 1-3 day duration
- Mild - moderate pain (short-term)

Plan:

1. SCL
2. Vigamox qid
3. Nevanac tid
4. **Percocet** 1 tab q12h prn; 2 tabs; no refills
5. Homatropine 5% in office
6. RTC 2 Days

64



65

Meds for severe pain

Trade	Generic	Dosing
Demerol	Meperidine	5 to 10 mg every 3 to 4 hours
Dilaudid	Hydromorphone	2 to 4 mg every 4 to 6 hours
MS Contin	Morphine Sulfate Extended Release	30 to 60 mg every 12 hours
OxyContin	Oxycodone Extended Release	10 to 80 mg every 12 hours
Percocet 10/650	10 mg Oxycodone/ 650 mg APAP	one tab every 6 hours

66

14 years old: child hit with a grape at school cafeteria

Mom: "Can't deal with the pain."

Pain relief ?

- Clark's rule: Ped dose equals

Adult dose / 150

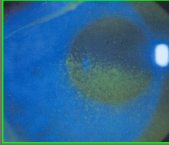
30mg TID / 150 = 1/5

1/5 (30mg) = 6mg TID for a child

♦ **Empirin** w/ Codeine = 30mg C & 325mg ASA....**NO!!!!!!**

♦ Codeine #2 1 tab Q 6hr X 3 days PRN

♦ Elixer = liquid Codeine & liquid Tylenol
15ml PO q4-6hrs



67

Mr Keller

- 81 yr male
- Meds: Elavil, HCTZ, Synthroid, ASA 81mg
- Dacryocystitis 1x/ year
- Va NLP od; 20/20 os
- Lumigan (qhs) os
- Very PAINFUL !



68

What analgesic?
Either Tylenol #3 or #4
Lortab 5.0mg/ 500mg Tylenol

Tramadol (50mg) tab q-4hrs prn
No → if Hx of seizures or
if taking MOA inhib, Tri-cyclic
anti-depr or SSRI

Concerns:
Evavil is a TCA (works on NorEpi & Serotonin)





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No. 10857

The Eye Center of Toledo

TLC
EYE CARE & LASER CENTERS

DAVID L. BEJOT, O.D.

PATIENT NAME Keller DATE _____

R TRamadol (50) (ultram)
Sig T + b q4h (PO) prn
(#12)

Label ☐
N R ☐
Refill _____ Times

Signature DL Bejot

3000 Regency Court Suite 100
Toledo, OH 43623-3081
419/882-2020
800/832-2015
Fax: 419/885-8440

Ohio Therapeutic Pharmaceutical Certificate # T1163
Michigan License # 4901004226

7/23/20

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No. 10858

The Eye Center of Toledo

TLC
EYE CARE & LASER CENTERS

DAVID L. BEJOT, O.D.

PATIENT NAME Keller DATE _____

R Tylenol #3 #12 tabs
Sig T + b (PO) q6-8h (prn)

Label ☐
N R ☐
Refill _____ Times

Signature DL Bejot

3000 Regency Court Suite 100
Toledo, OH 43623-3081
419/882-2020
800/832-2015
Fax: 419/885-8440

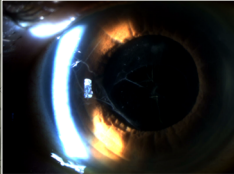
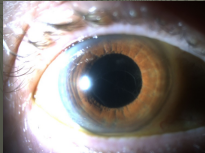
Ohio Therapeutic Pharmaceutical Certificate # T1163
Michigan License # 4901004226

71

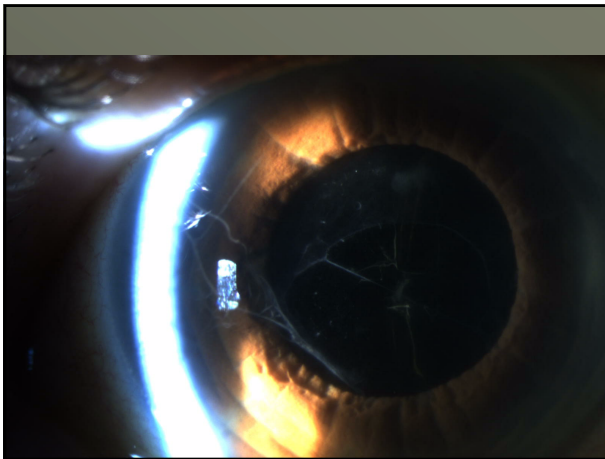
71

Annette 75 female

- 2 day po CE with PCIOL
- 6 - 7 PAIN SCALE
- OD sent her over
- Va 20/50
- SLE: see photo


72



73

Annette 75 female

Imp:

1. Endophthalmitis

Plan:

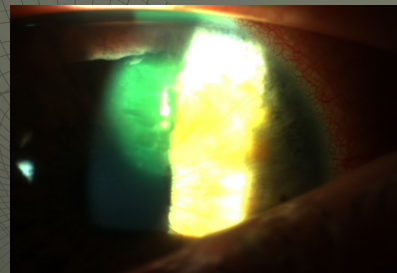
refer to retinal specialist
What about oral narcotic...vicodin?

74

Ron...the welder

75

Ron...the welder



76

Ron...the welder

Plan

Bandage SCL
vigamox qid os
homatropine 5% in office
voltaren qid os
vicodin q6-8h po (prn)
RTC 1 day
discuss the potential side effects of trauma
glucoma, cataracts, R/D (S/Sym of r/d; call asap if notices)

77

Ron...the welder

1. CT scan orbit os
2. Tetanus shot

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Oral Pain Medications

THANK YOU

Sue Demott

Cindy Hancock

Stephanie Shackelford

David L. Bejot O.D.
TLC Michigan Disease Conference
April 2011