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PISA Physicians

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Kenneth B. Gossler M.D.

Background

- M.D. University of Arizona 1992 Alpha Omega Alpha
- Anesthesiology Residency at University of Arizona 1996
- Pain Management Fellowship Mayo Clinic 1997
- Board Certified Anesthesiology and Pain
- Practicing Interventional Pain Management in Tucson since 1997

Evidence Based Pain Management

- Epidural Steroid Injections
- Lumbar and Cervical Facet Pain
- Chronic Opioid Therapy for Non-Malignant Pain

Evidence Based Criteria

LEVEL I: Evidence obtained from at least one properly randomized controlled trial.

LEVEL II: Evidence obtained from well designed controlled trials without randomization.

LEVEL II-2: Evidence obtained from well designed cohort or case control analytic studies.

LEVEL II-3: Evidence obtained from multiple time series with or without the interventions.

LEVEL III: Opinions of respected authorities based on clinical experience case reports and experts.

Epidural Steroid Injections

- Fluoroscopically Guided
- Cervical, Thoracic, Lumbar and Caudal Levels
- Interlaminar vs. Transforaminal

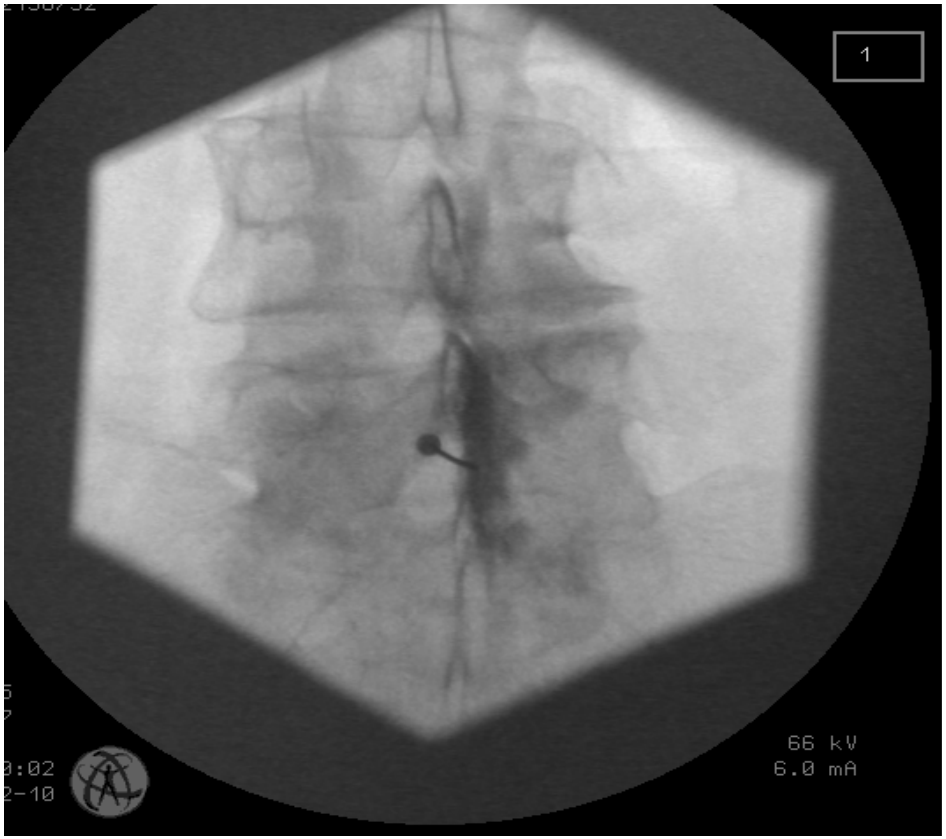
Indications for Epidural Steroids

- Cervical and Lumbar Herniated Discs
- Cervical and Lumbar Spinal Stenosis
- Cervical and Lumbar Neuroforaminal Stenosis
- Post Laminectomy Syndrome
- Discogenic Low Back Pain

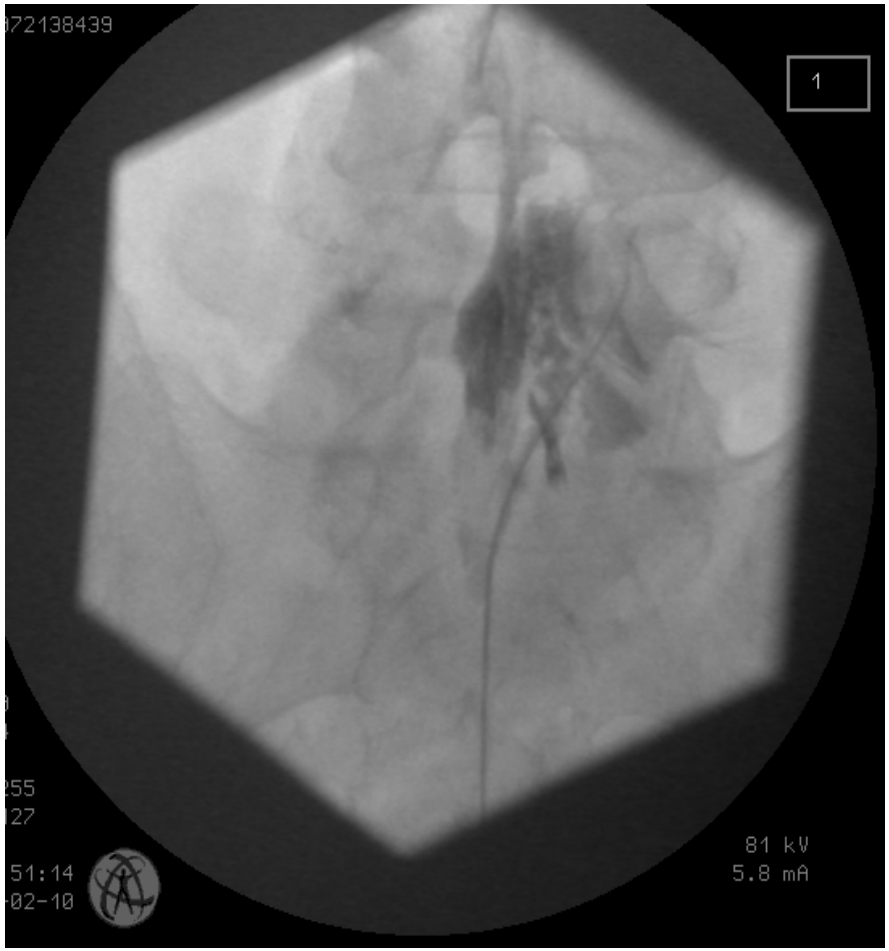
Epidural Steroids Mechanism of Action

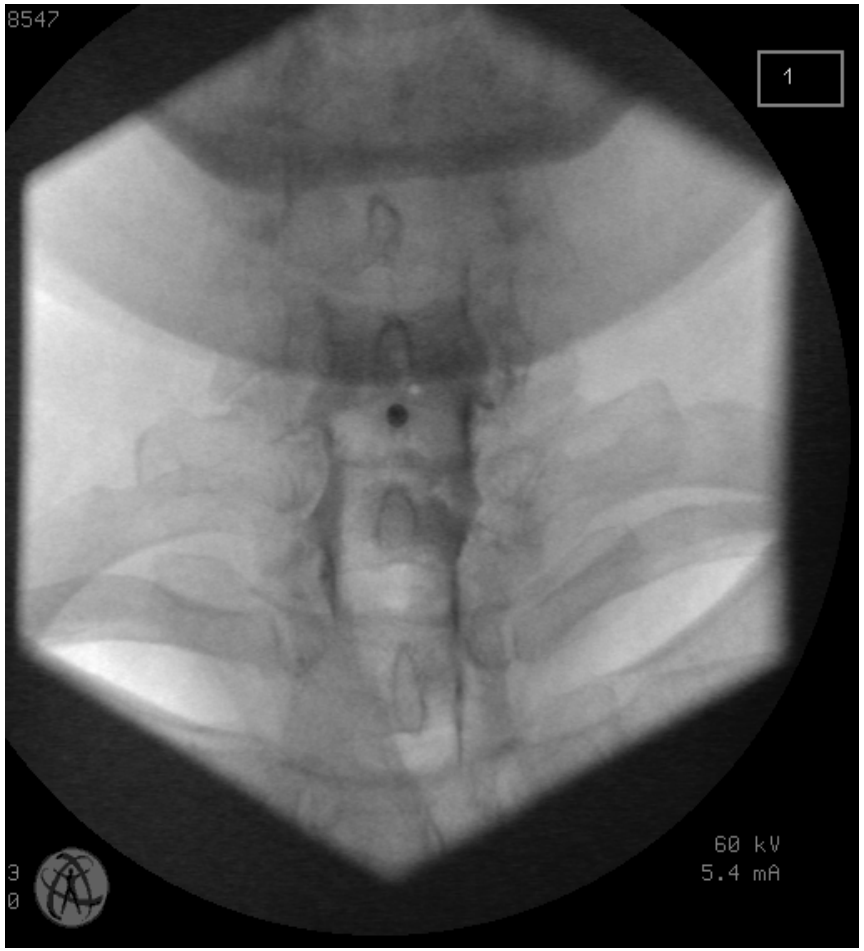
- Interrupts nociceptive input
- Decreases the self-sustaining activity of the neuron pools in the Dorsal Horn and CNS
- Prolonged suppression of Neuronal Discharge
- Suppress sensitization of Dorsal Horn Neurons
- Inhibit inflammation especially in Herniated Discs

Interlaminar Lumbar and Transforaminal Epidural



Caudal and Cervical Epidural





Epidural Steroid Risks

- Post Dural Puncture Headache
- Epidural Hematoma
- Epidural Abscess
- Steroid Side Effects
- Paralysis: Spinal Cord Infarction
- Nerve Damage

Epidural Steroid Results

- Lumbar Herniated Disc : 74- 86% Success
- Cervical Herniated Disc: 74% Success
- Spinal Stenosis with Leg Symptoms : 70% Success
- Discogenic Low Back Pain: 60%
- Post –Laminectomy Syndrome: 60%

Evidence Based Pain Management

- Lumbar Transforaminal: Level II-2 for long term relief
- Caudal Epidurals: Level I for long term
- Blind Lumbar Epidurals: Level II-2 for short term relief for Lumbar HNP, Level III for spinal stenosis, discogenic LBP,
- Blind Cervical Epidurals Level II-1 (Strong recommendation)

Pain Physician 2009; 12: E123-E198

Case Study

- 50 year old Male
- History 9 yrs of low back and right leg pain all the way to the ankle.
- Pain at 8 out of 10
- Past Med Hx: Anxiety and Depression
- Medications:
  - Methadone 50 mg tid & Ibuprofen 800mg tid
  - Baclofen 10 mg 2 at bedtime
  - Venlafaxine & Risperidone
  - Clonazepam 1 mg
  - trazodone

Case Study cont.

- Pt reports pain is unchanged despite 150mg of methadone per day.
- Primary care physician prescribed only enough methadone to get him to today's visit
- Family reports patient sleeps all day and his mood is depressed since starting methadone
- Prior treatment at another pain clinic included epidural steroids without relief. Pain clinic refuses to prescribe narcotics to any patients. Pt offered SCS trial.

Physical Exam

- Mental Status: Slurred Speech, Somnolent
- Normal Neuro
- ROM of lumbar spine essentially absent
- Exaggerated Pain Behaviors
- Motor Strength: Uncooperative Poor Effort
- MRI: DDD L5/S1, No stenosis, No HNP

What to Do?

Outcome

- Admit to inpatient Detox again and reassess
- Found to be exquisitely tender over L4/L5 and L5/S1 facets and that reproduces pain all the way down the leg
- Performed diagnostic medial branch blocks had 80% relief for 4+ hours
- Performed lumbar facet medial branch Rhizotomy. Pt reports at 6 wk f/u 80% relief.
- Taking no pain meds.

Facet Joint Pain (zygapophysial)

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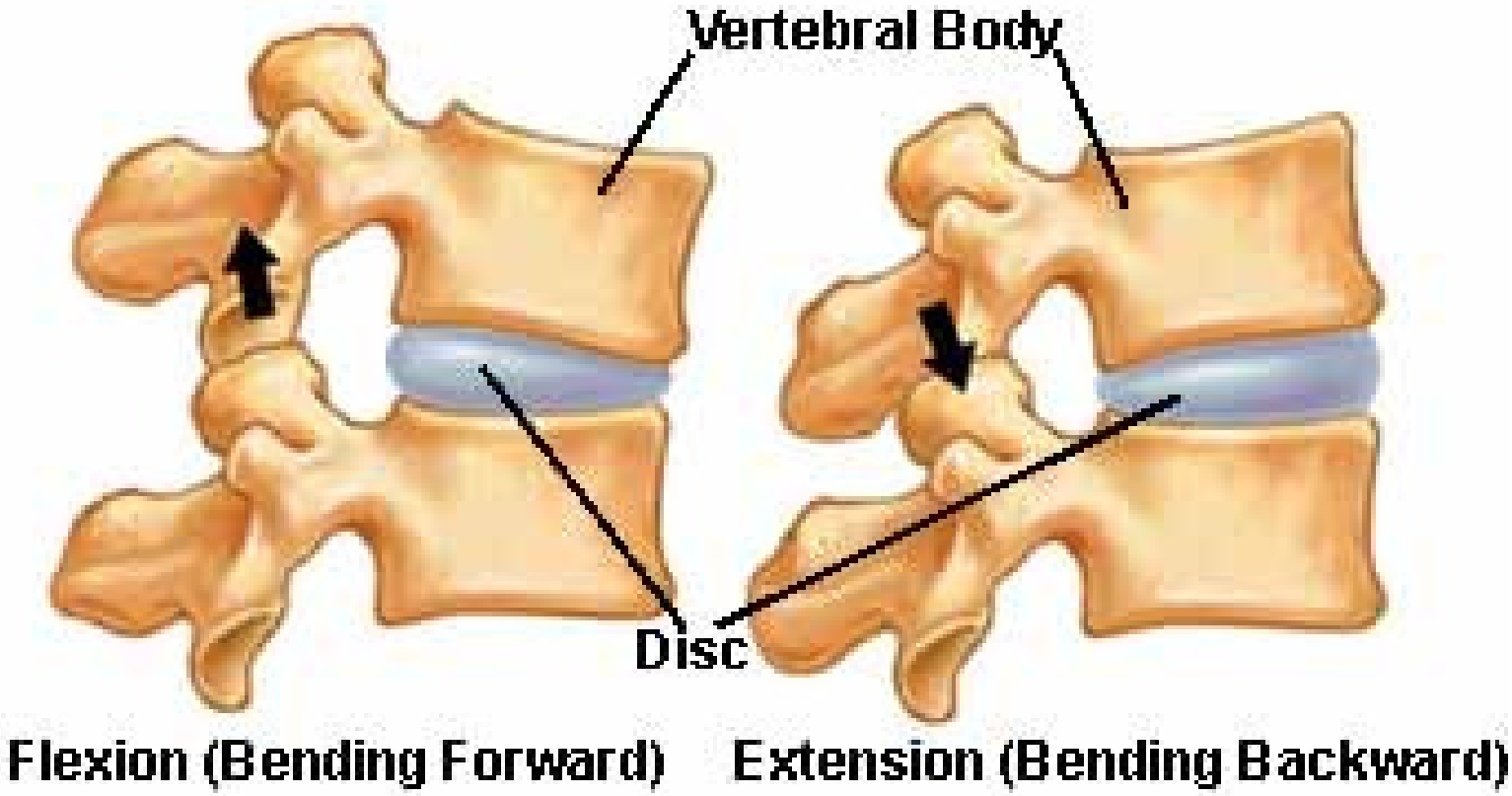
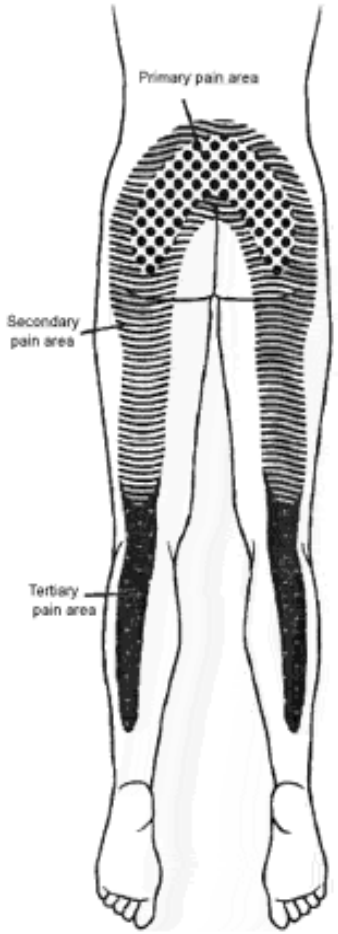
- Anatomy: formed by the superior and inferior articular processes of successive vertebrae.
- P.E. reveals tenderness in the paraspinal region with decreased R.O.M.
- Radiographs not very helpful for diagnosis

Facet Joints in Motion



Facet Joint Pain Referral Pattern



- Primarily low back but with radiation.
- Described as achy difficult to localize.
- Worse with extension and rotation.
- No neurologic deficit.

Facet Joint Pain

- Chronic LBP due to Facet 30-40% of the time.
- Facet joint pain is Bilateral 60-79% of the time.
- Facet joint pain is usually two joints, but may involve three joints in 21-37% of the patients.
-

Lumbar Facet Arthropathy

- Cannot diagnose by radiographs
- P.E. and Clinical History somewhat helpful
- 40% of Persistent LBP is Facet Arthropathy
- Diagnostic Lumbar Medial Branch Blocks currently the test of choice.
- A positive DLMBB must have dramatic relief for the duration of local anesthetic or longer.
- False positives: Myofascial pain, DDD

Diagnostic Medial Branch Block

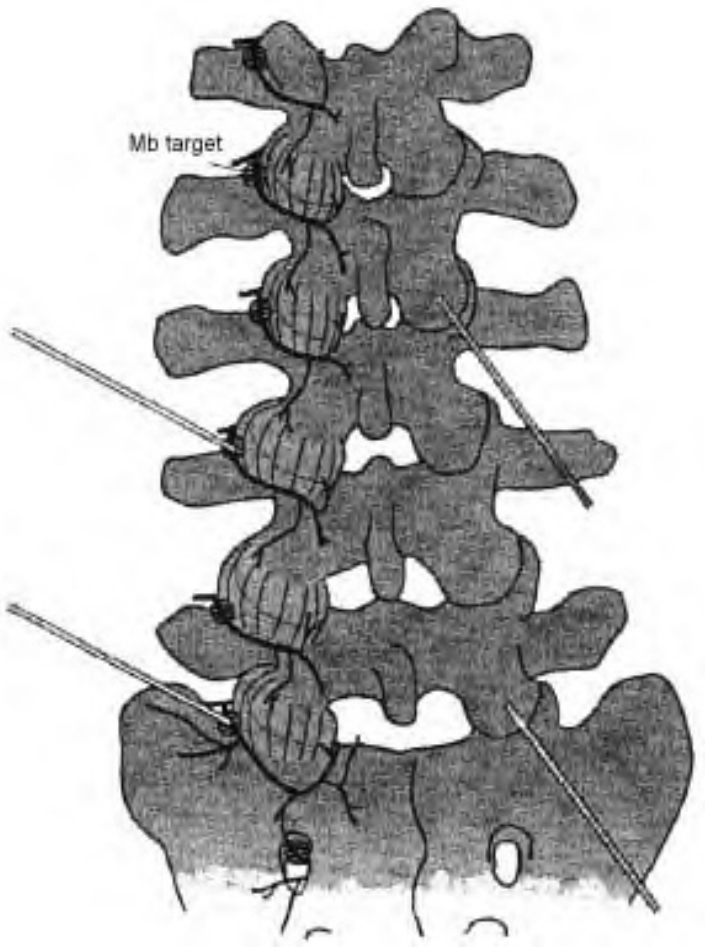
- Involve anesthetizing the lumbar medial branch of the dorsal rami that innervate the presumptive symptomatic joint.
- Two injections one week apart
- Patient then reports pain relief doing provocative maneuvers
- A patient obtaining >80% relief for the duration of the anesthetic indicates a successful block.

EVIDENCE: Level I

Evidence for Diagnostic Facet Blocks

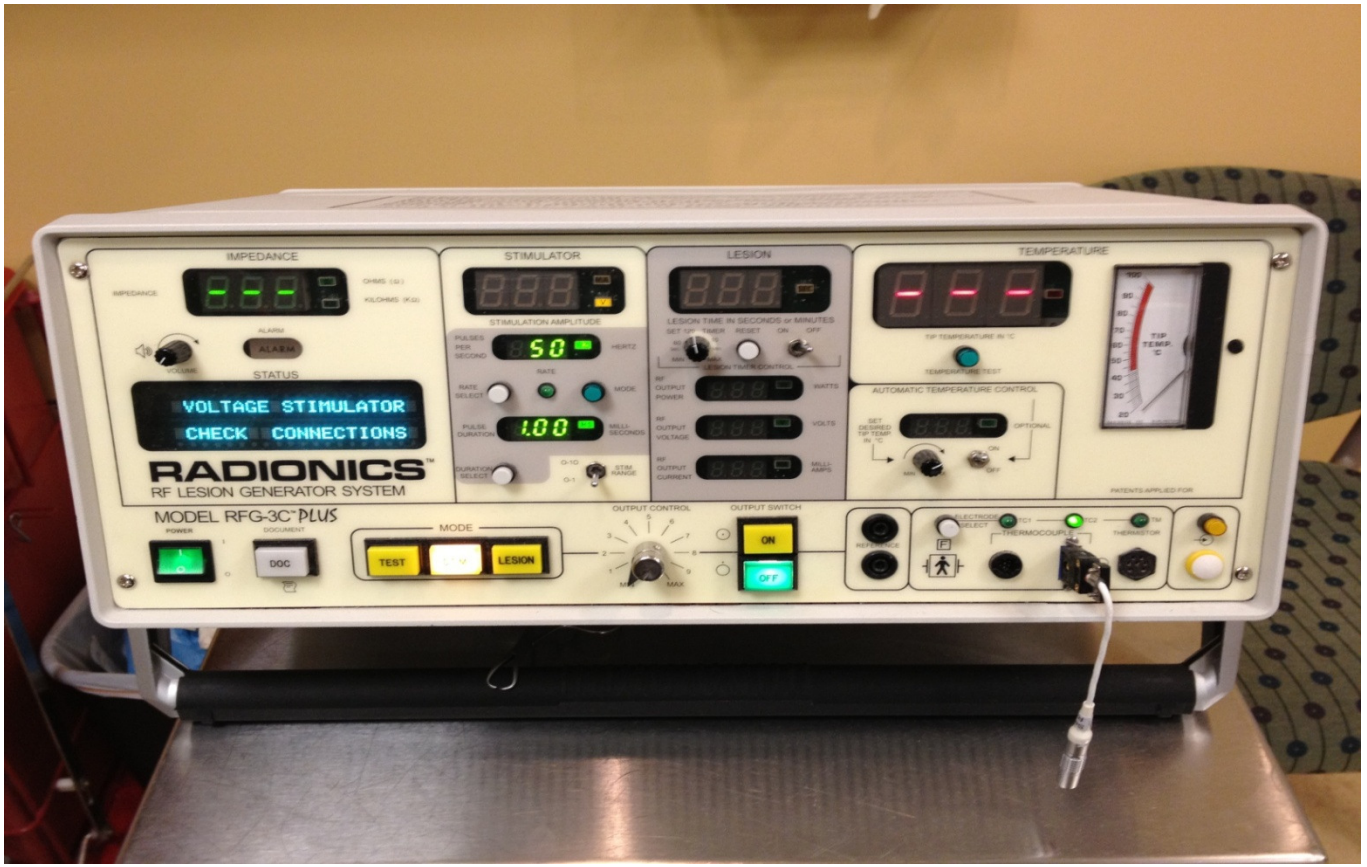
- Level I for diagnosing Facet Pain
- Level II-1 or II-2 for short and long term relief
- 82% of patients have >50% relief for 4-6 months with 3 injections.

Radio frequency Neurolysis of Lumbar Facets



- Involves placing RF probes on the DMB of the lumbar nerve root.
- RF needles heat tissue to 80 degrees killing the nerve.

Radio Frequency Generator



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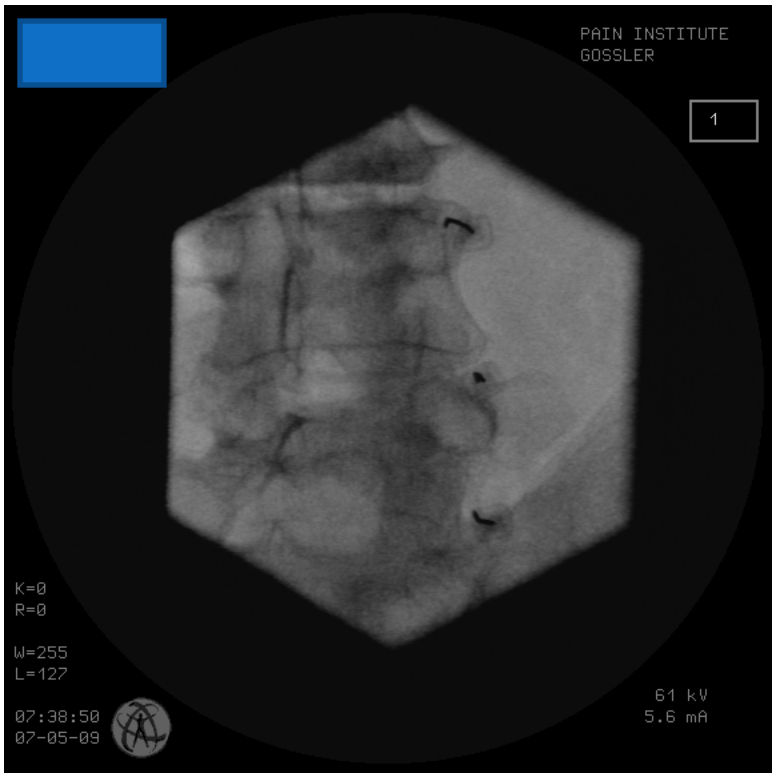
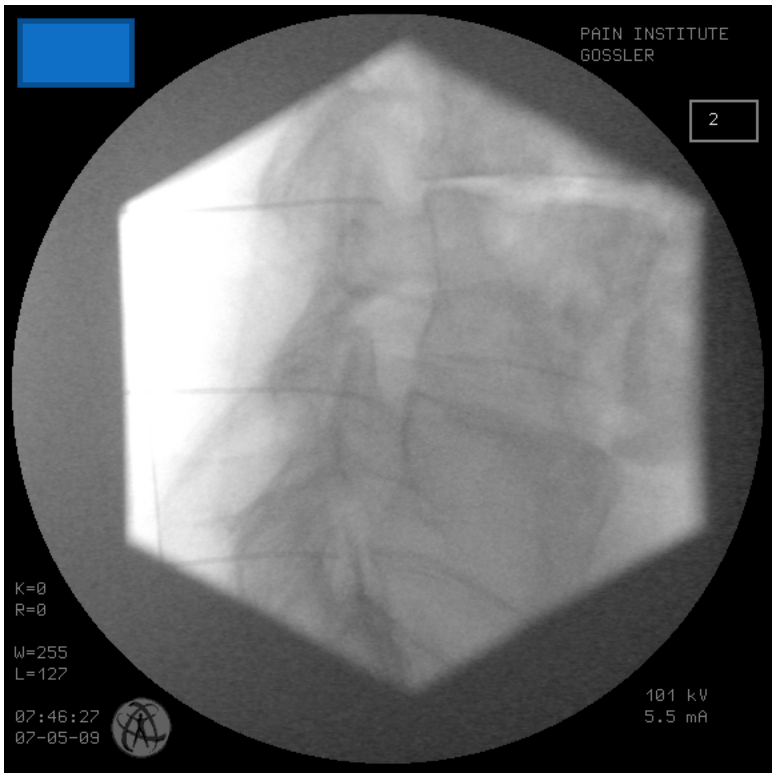
Lumbar Facet RF Neurolysis

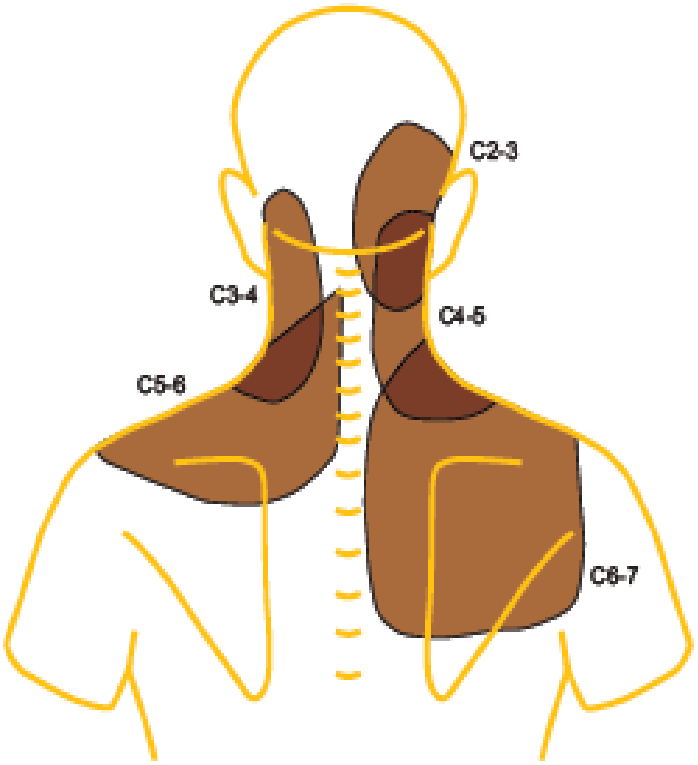




Cervical Facet Pain

symptoms

- Neck Pain
- Sub occipital HA's
- Shoulder and Supraclavicular Pain
- Crepitus/ Pain on Flexion to Ipsilateral Side
- Tenderness Over Cervical Facet Joints



A. Diagram of cervical zygapophysial joint pain distribution in volunteers.

Cervical Facet Pain Referral Pattern

Cervical Medial Branch Block

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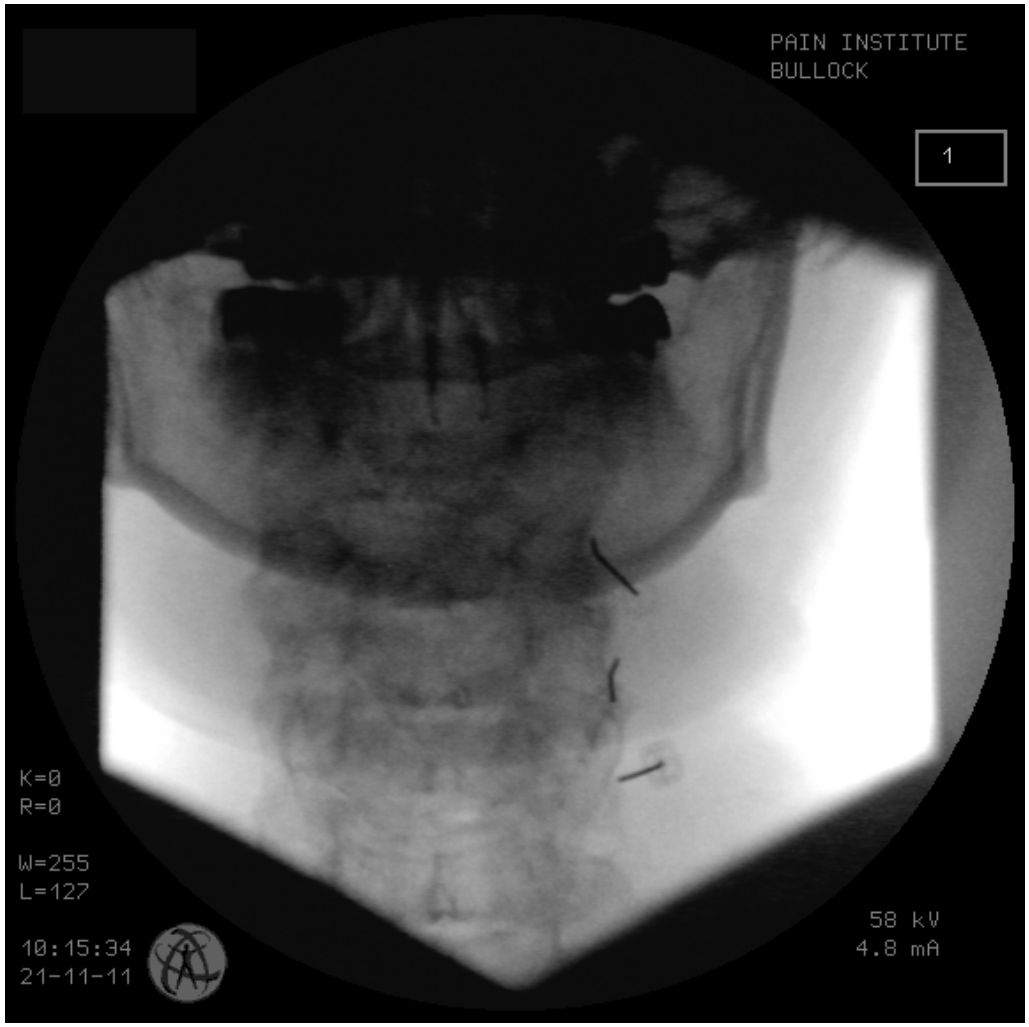

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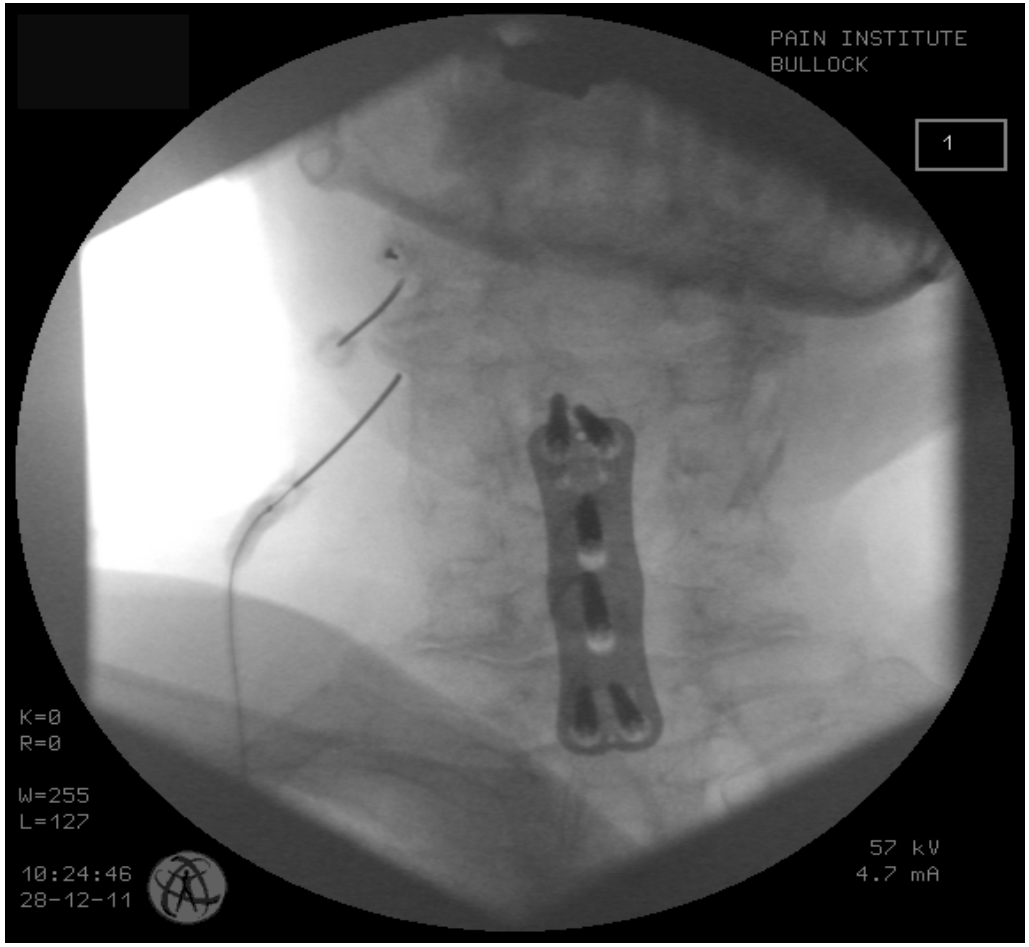
Cervical Radiofrequency



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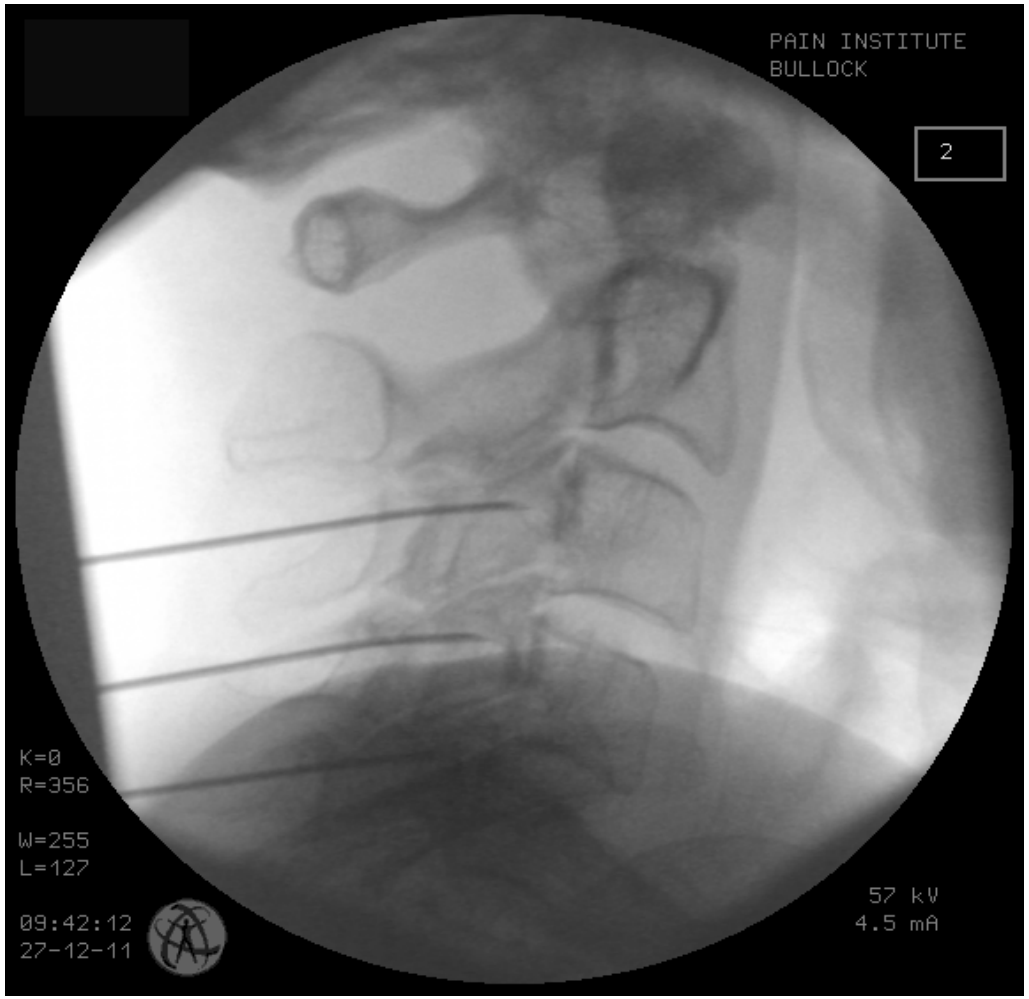
Cervical RF lateral



Facet RF Rhizotomy

- Lumbar Facet RF: Level II-2-3

  87% of Patients received 60% or more relief, 60% had 90% relief at 12 months

- Cervical Facet RF Level II-1-2

  20/28 had obtained complete relief for 3 mo or more, median duration 421 days

Pain Physician 2009; 12: E123-E198

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Chronic Opioid Therapy (COT)

- Evidence for Chronic Narcotic Therapy
- Brisk Review of Opioid Pharmacology
- Arizona Board of Medicine Guidelines
- Opioid Contracts
- Urine Drug Screens
- Dismissing Patients
- How we manage COT

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Chronic Pain

- Prevalence of Chronic Pain: 9-20% of the population has moderate to severe chronic pain.
- More than 20% of patients in an average primary care practice have chronic pain
- Cost to treat chronic pain exceeds the combined cost of treating patients with coronary artery disease, cancer and AIDS.

Evidence Supporting Chronic Opioids

- Opioids moderately effective for pain relief
- Slightly effective for functional outcomes
- Pain relief is in the 30% range
- Very little evidence supporting use beyond 12 weeks
- Half of patients discontinue opioids
- There is no evidence supporting doses higher than 200mg/day morphine equivalents

Evidence Supporting Chronic Opioids

- Transdermal Fentanyl and Sustained Release Morphine evidence for improving functional status and pain is Level II-2
- Oxycodone sustained release evidence is Level II-3
- Hydrocodone and Methadone evidence is Level III
- Oxymorphone studied for 6 and 12 months found that it provided effective pain relief.
- Tramadol effective for pain and in one large study was abused 50% less than hydrocodone

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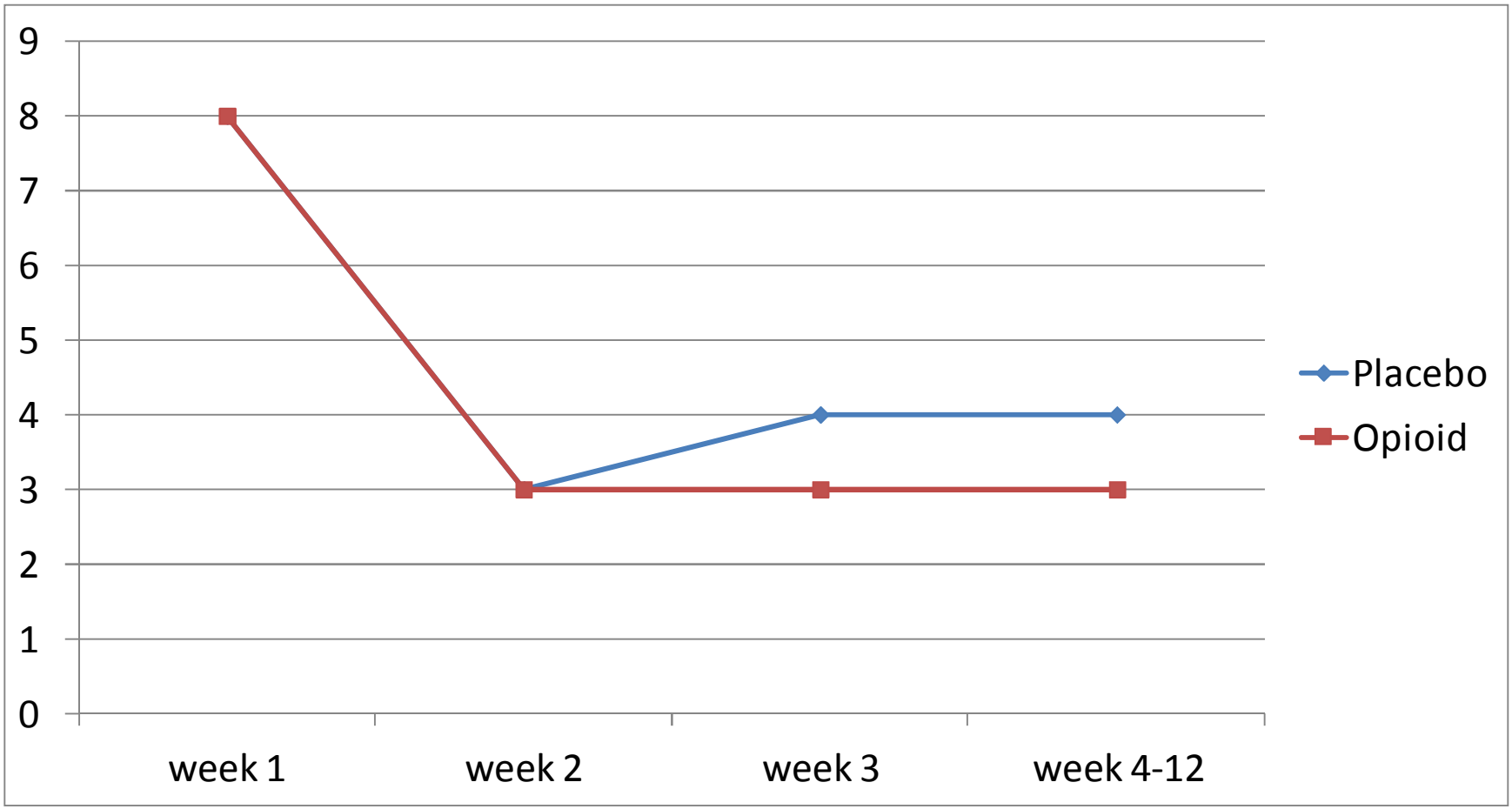
Pharma Pain Studies



Sustained Release Opioids

- Morphine
- Oxycodone
- Transdermal Fentanyl
- Oxymorphone
- Transdermal Buprenorphine
- Tapentadol
- Methadone
- Tramadol
- Hydromorphone

Opioid Conversion Charts

Opioid	Oral Equivalents
Morphine	30 mg
Oxycodone	20-30 mg
Hydrocodone	20-30 mg
Oxymorphone	10 mg
Tapentadol	100-150 mg
Hydromorphone	10-12 mg
Fentanyl	12-25 ug/hr (transdermal)
Methadone	IMPOSSIBLE

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Arizona Medical Board Guidelines

- Evaluation of Chronic Pain Patient: Diagnosis
- Treatment Plan
- Informed Consent (can be verbal)
- Agreement for Treatment (can be verbal)
- Periodic Review
- Consultation with Specialist if Warranted
- Medical Records
- Termination From Medical Practice

Ten Steps for Good Medical Practice

1. Make a Diagnosis with Appropriate Differential.

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2. Psychological Assessment Including Risk of Addictive Disorders

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3. Informed Consent

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Ten Steps for Good Medical Practice

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4. Treatment Agreement (Written or Verbal)
5. Pre and Post-Intervention Assessment of Pain Level and Function

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4. Treatment Agreement (Written or Verbal)
5. Pre and Post-Intervention Assessment of Pain Level and Function
6. Appropriate Trial of Opioids, Consider Adjuvants

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5. Pre and Post-Intervention Assessment of Pain Level and Function
6. Appropriate Trial of Opioids, Consider Adjuvants
7. Reassessment of Pain and Function

Ten Steps for Good Medical Practice

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2. Psychological Assessment Including Risk of Addictive Disorders
3. Informed Consent
4. Treatment Agreement (Written or Verbal)
5. Pre and Post-Intervention Assessment of Pain Level and Function
6. Appropriate Trial of Opioids, Consider Adjuvants
7. Reassessment of Pain and Function
8. Regularly Assess the “Four A’s”

Ten Steps for Good Medical Practice

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8. Regularly Assess the “Four A’s”
9. Review Pain Diagnosis, Co morbid Conditions, Addictive Disorders

Ten Steps for Good Medical Practice

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3. Informed Consent
4. Treatment Agreement (Written or Verbal)
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6. Appropriate Trial of Opioids, Consider Adjuvants
7. Reassessment of Pain and Function
8. Regularly Assess the "Four A's"
9. Review Pain Diagnosis, Co morbid Conditions, Addictive Disorders
10. Documentation

Universal Precautions in Pain Medicine, *Pain Medicine* 2005, Vol 6, #2

Arizona Pharmacy Website

- Controlled Substances Prescription Monitoring Program
- Need to Register by mail: NOTORIZED
- Access website by DEA number and password
- Enter Patient's Name and Birth Date
- Only can review patients you are seeing or will be seeing
- Database is NOT all-inclusive.

Chronic Pain Patients

Sir William Osler

"It is much more important to know what sort of a patient has a disease than what sort of disease a patient has."

Risk Factors for Prescription Drug Abuse

- Smokers 5 times the rate of abuse, 40% rate of monthly binge drinking. [1]
- Alcohol Abuse : 31% also abuse prescription drugs
- Chronic Pain
- Psychiatric Issues
- Low socioeconomic Status, Medicaid, Age less than 26, unemployed, male.
- Appearance, Behavior, Speech Pattern: Not Studied

1. Rural Kentucky

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Opioid Agreement

- Written agreement to outline patient responsibilities
- Informed Consent: Addiction, Dependence, Tolerance, Overdose, Side effects, Pregnancy
- Only Obtain Opioids From one Physician, one Pharmacy
- Cannot Share medications
- No Early Refills, Called in Medications
- Will not replace lost, stolen or damaged medications
- Random Pill Counts and UDS

Urine Drug Screen

- Prescreen to look for drugs of abuse, and compliance with current therapy
- Continued Random Drug Screen: Used to encourage compliance and detect illicit drug use.
- Quantitative Urine Drug Screens used to measure compliance and detect possible diversion.

Urine Drug Screen “dipstick”

- In Office Point of Care Testing
- Test for Drugs of Abuse plus usual chronic
- Must get confirmatory testing for all positives before making clinical decisions.
- High Rate of False positives

Interpreting UDS

- Codeine Metabolized to Morphine
- Morphine can be metabolized to Hydromorphone
- Hydrocodone Metabolized to Hydromorphone
- Oxycodone metabolized to oxymorphone……
- Methamphetamines false positives with cold medications
- Will dismiss patients for illicit drug use

Dismissing Patients

- Must give 30 days continued care.
- Not obligated to prescribe opioids if unsafe
- Can prescribe a tapering dose
- Medications to ameliorate withdrawal symptoms
- Some patients will go through withdrawal.
- Provide a list of other providers
- Referral for Detox

What we do: Starting COT

- History and Physical, Diagnosis, Prior records.
- Consider P.T. Interventional Procedures, Surgery
- Establish Medical Necessity
- No Narcotics on first visit, No Self Referral
- Urine Drug Screen on first visit and q 3mo, random
- Narcotic Agreement
- Risk Assessment
- Review Pharmacy Website

What we do: Follow Up Visit

Analgesia

Activities of Daily Living

Adverse Effects

Aberrant medication- Related Behaviors

Pill Count

Pharmacy Website

UDS every 3 months, or random

Once stable return to primary care.

Case Study 1

- Problem: Patient on MS Contin 50mg one tab q 8hrs great pain relief, but getting nausea.
- Solution :Opioid rotation, Change to Oxycontin.
- Used company Supplied Conversion Ratio.

  150mg Morphine= 100 mg Oxycontin

  Prescribed Oxycontin 40mg q 8hrs

Result: Patient in E.D. Obtunded on Ventilator

WHAT WENT WRONG?

Telephone Consult

- Homeless with chronic pain. On COT
- Sustained Release Morphine 60mg q 8 hr
- Four out the last 6 months his medications have been stolen.

Opioid Case Study 2

- Patient recently moved to Tucson, was given a 2 month supply of Methadone, and ran out on schedule a month ago. Referred by primary care who is willing to take over prescribing after the pain medicine specialist re-establishes narcotic therapy.
- Pain Specialist restarts Methadone at the patients usual dose of 20mg q 8hrs.

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