

Wasser Pain Management Centre

Management of Chronic Pain Syndromes

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Wasser Pain Management Centre

Thursday June 11, 2015

Disclosures

- Purdue, Pfizer, and Allergan have provided research and education fund
- Do not own Pharma shares directly
- Medicolegal work..both sides now

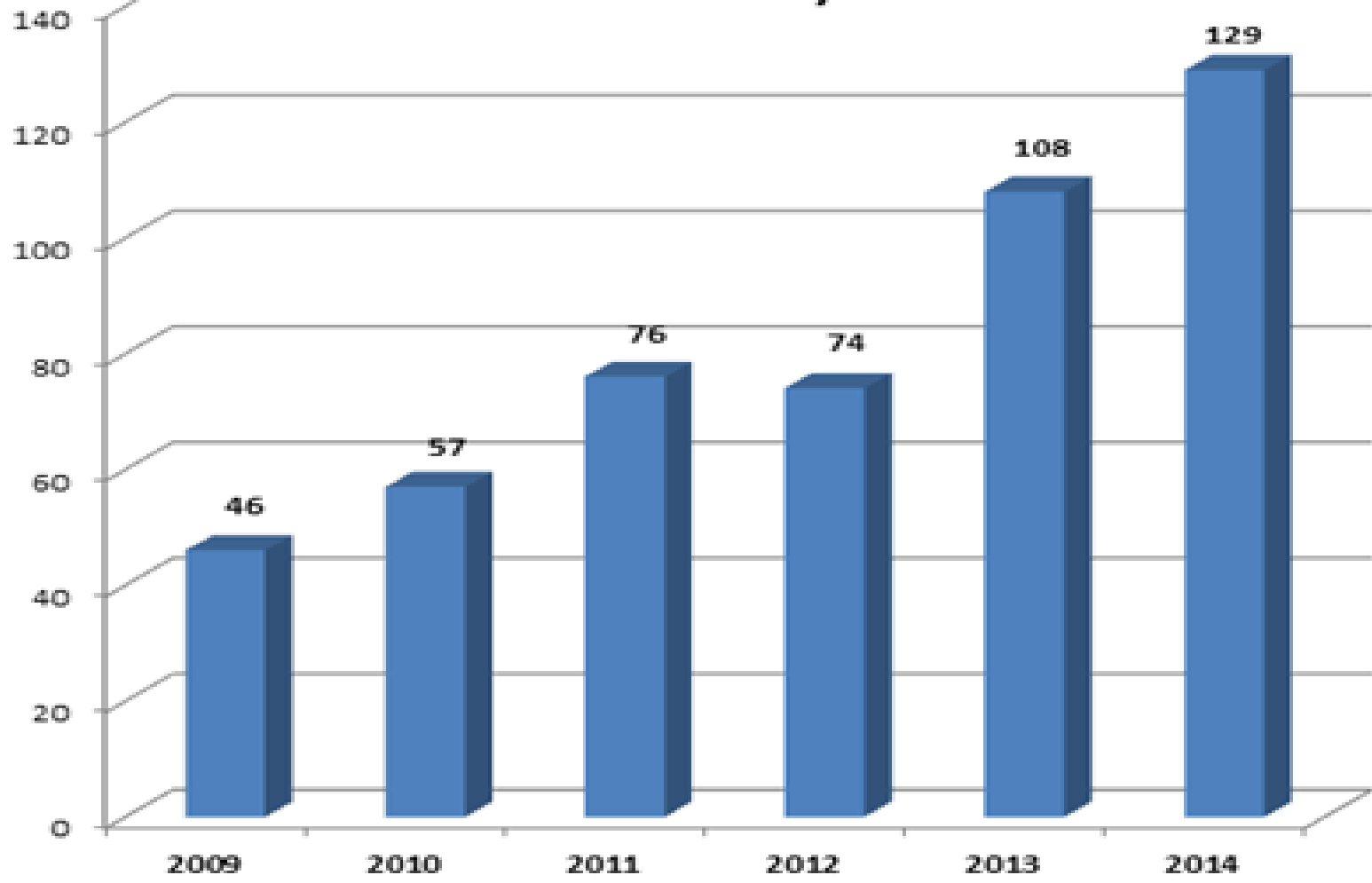
Wasser Pain Management Centre

- Clinical care, education and research in chronic non-cancer pain
- An integral Centre of Excellence at Mount Sinai Hospital
- A recognized local, national and international leader in chronic management
- Developing leaders in CPM
- Dependent on a variety of funding sources

Multiprofessional and Multimodal

- Neurology (2)
- Anaesthesiology (7+)
- Dentistry (4)
- Gynecology (1)
- Psychiatry (1)
- Nursing (2)
- Addiction Medicine (1)
- Physiatry (1)
- Sex Therapy (1)
- Family / Behavioural Medicine (1)
- Acupuncture, RMT, Chiropractor, Physical Therapy
- Plus partners (Urology)
- Plus Fellows, Residents, Graduate Students, Summer Students
- Admin Staff

Number of Complete Intake Packages Received For the Month of May 2009-2014



Patient Data

- 1500 new cases per year and growing
- 3500 active cases
- 8000 patient visits
- Widespread clinical care and consultation to the community
- Working to change practices
- Outpatient and inpatient service
- Innovative programs

Programs of Care

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- Pain and Addiction
- Assessment of Individuals with Complex Pain Problems
- Genital and Pelvic Pain in Men and Women
- Neuropathic Pain
- Headache and Facial Pain
- Muscle and Arthritis Pain
- Transitional Pain Clinic
- Inpatient services

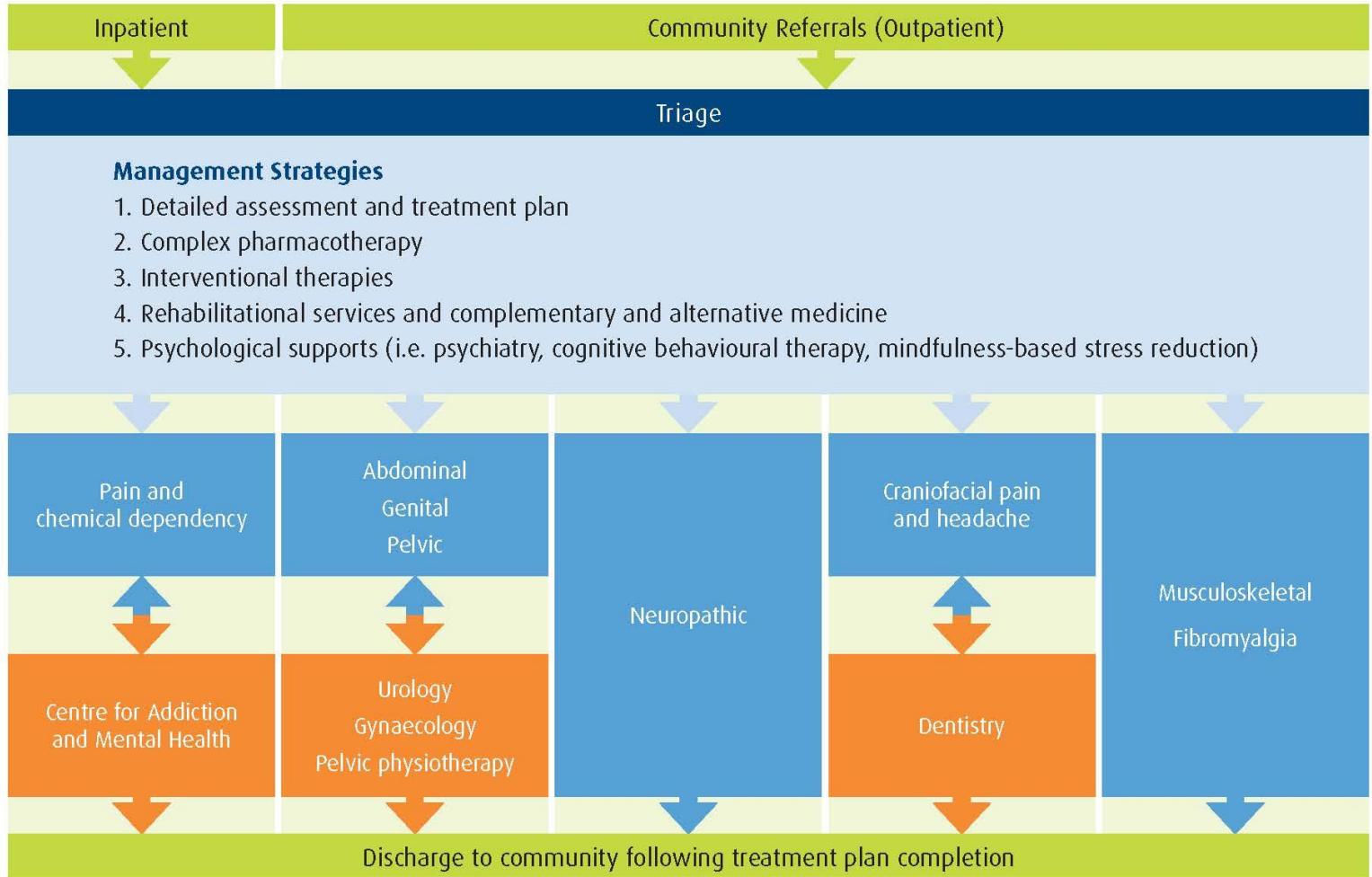
Causes of Chronic Non-Cancer Pain

- Low Back Pain
- Headache
- Fibromyalgia
- Post traumatic or post-surgical pain
- Post-herpetic neuralgia
- Diabetic Neuropathy
- Scrotal pain
- Arthritis
- Vulvodynia
- Pudendal neuralgia
- Endometriosis
- Irritable bowel
- Inflammatory bowel
- Interstitial cystitis
- Ehlers Danlos Syndrome (III)

Wasser Pain Management Centre Approach to Chronic Non-Cancer Pain

Model of Care:

1. Comprehensive assessment including risk assessment
2. Define and treat underlying condition
3. Diagnose pain type and treat
4. Address comorbidities
5. Personal responsibility



201306557

Gordon A (2012). The five pillars of pain management. *Pain Management*, 2(4), 335-344.

Pink L, Smith A, Peng P, Galonski M, Tumber P, Evans D, Gourlay D, Gordon L, Bellingham G, Nijjar SS, Picard LM, & Gordon AS. (2012). Intake assessment of problematic use of medications in a chronic non-cancer pain clinic. *Pain Res Manage*, 17(4), 276-280.

Research Output

- Pudendal Neuralgia
- PGAD
- Pain interventions for chronic headache
- Music therapy in FMS and TMD
- Pain interventions for genital pain
- Pain and TMD
- Gourlay output
- Education of medical students: Knowledge Transfer (CAHR)
- Use of mindfulness in chronic pain
- Migraines in emergency departments
- Headache and sexual pain
- Pain and addiction

Pudendal Neuralgia: Clinical Diagnosis and Management

Allan Gordon MD

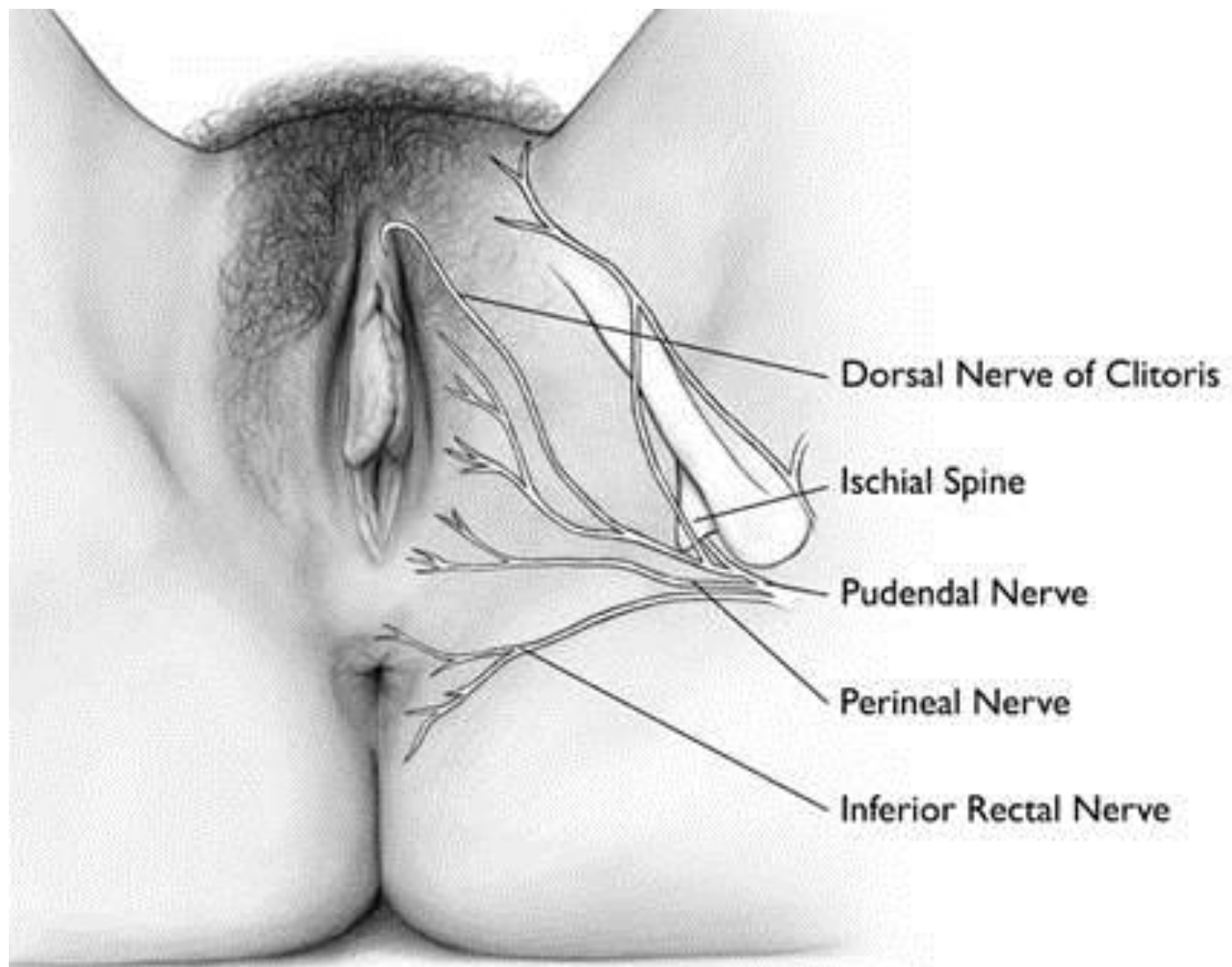
Neurologist and Director

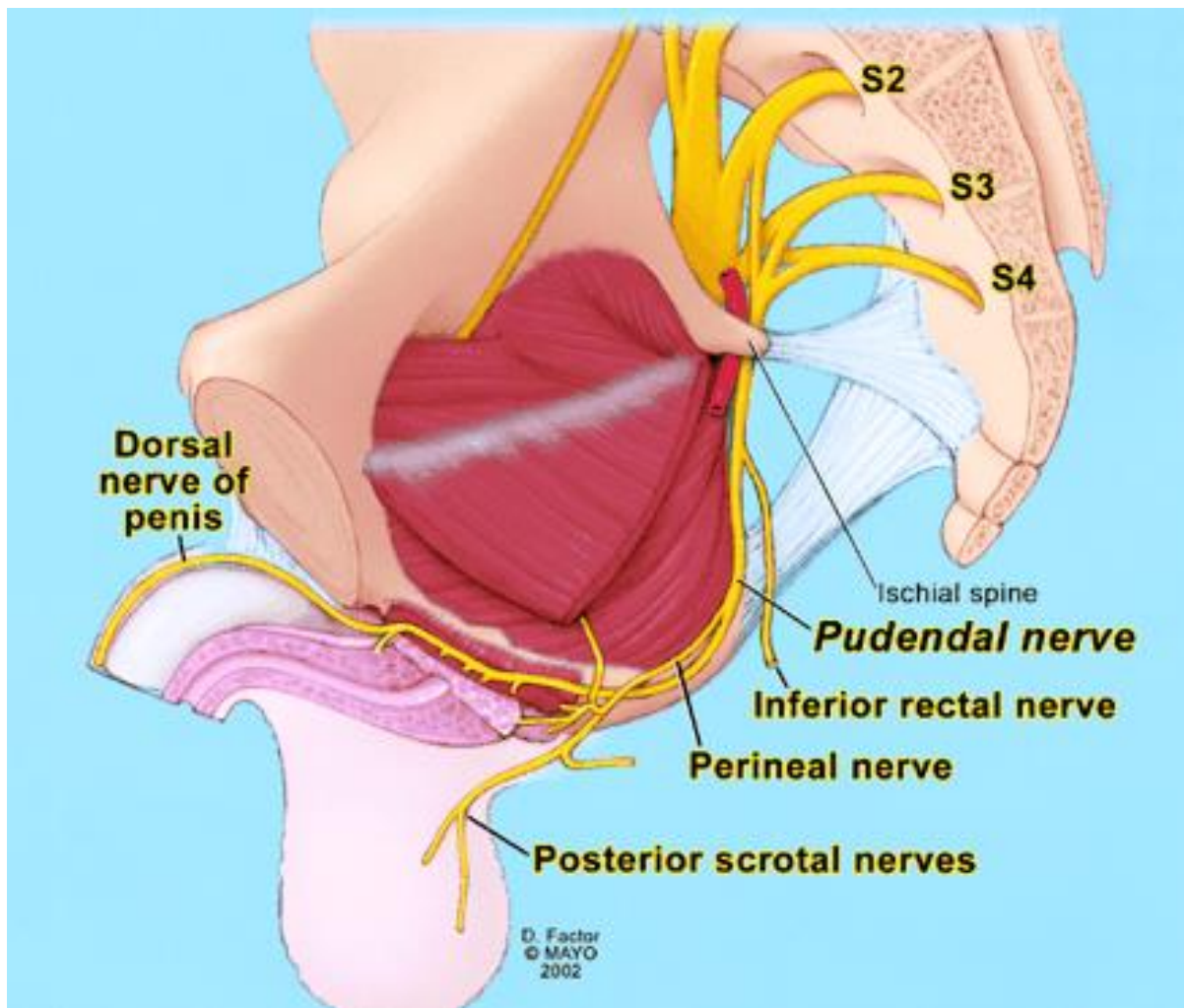
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Definition (Antolak 2006)

- Perineal and other pelvic pain that is aggravated by sitting and reduced or relieved by sitting on a toilet seat
- The pudendal territory is extensive and may include suprapubic, inguinal, genital and perineal pain, vulvodynia, coccydynia, and proctalgia
- Bladder, bowel and sexual dysfunction are common
- Pudendal neuropathy encompasses a spectrum of pudendal dysfunction including hyperesthesia, hypoesthesia, and urinary and fecal incontinence.
- Increase in pudendal nerve terminal latency sometimes helpful
- Pudendal neuralgia involves pain in the nerve distribution
- Issues of central sensitization

- No published data on prevalence
- Female : male is 2.5 :1
- 25-80 but mean age in 6th decade
- An important consideration in the differential of genital and perineal pain syndromes in men and women
- 150 possible cases referred in 2014 to the WPMC





Schematic anatomy of pudendal nerve. (Courtesy of the Mayo Foundation) Drawing illustrates pudendal nerve arising from sacral nerve roots S2–S4, exiting pelvis to enter gluteal region through lower part of greater sciatic foramen and reentering pelvis through lesser sciatic foramen. Pudendal nerve gives rise to inferior rectal nerve, perineal nerve, and dorsal nerve of penis or clitoris.

Nerve Entrapment

- Near ligament
- Alcock's canal
- Sub pubic
- Uncertain

Description

- Pain in the territory innervated by the pudendal nerve
- Anterior and posterior urogenital areas (vulva, clitoris, and perianal area in women) and (penis, scrotum and perineal area in men)
- Unilateral or bilateral
- Pain exacerbated with sitting
- Pain alleviated (or diminished) by standing, lying on the non-painful side, or sitting on a toilet seat
- Central sensitization may affect impact on posture
- Often standing in the waiting room
- Women feel something stuck inside (Like a ball)

Diagnosis

- Clinical features of chronic debilitating perineal pain exacerbated in the seated position and relieved by standing
- Clitoral or penile pain
- Unexplained rectal pain
- Unilateral or bilateral vulvar pain
- Scrotal pain
- Dyspareunia
- Sweaty perineum
- Are they standing
- How do they sit

Clinical Differentials

- Vulvodynia
- Clitorodynia
- Endometriosis
- Interstitial cystitis
- Scrotal pain
- Other neuropathic pain

Management

- Clinical diagnosis
- Pudendal nerve latency
- Pudendal nerve block
- Imaging and MRN
- Neuropathic medication
- Analgesics
- ?Cannabinoids
- Pelvic therapy
- Surgery ? Approach
- Neuromodulation

Clitoral Pain

- Clitoral Pain: The Great Unexplored Pain in Women
- J. Sex. Marital Ther 2002; 28 Suppl 1:123-8
- Case series of 7 of my patients and 14 online patients
- Article in the Encyclopedia of Pain
- Seen with trauma, PNE, MS, VVS, LS

New Work

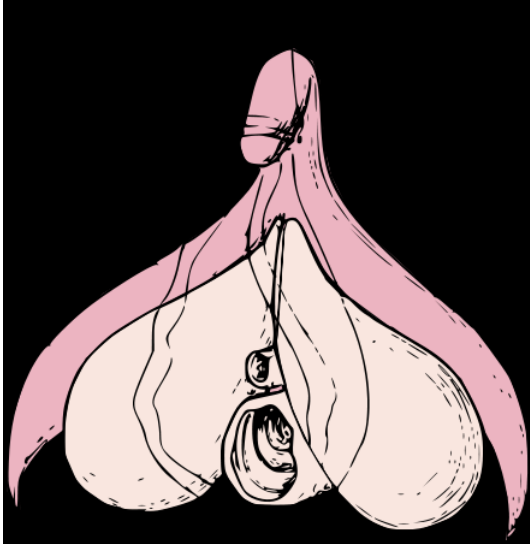
Clitorodynia: A Descriptive Study of Clitoral Pain (2015)

**Mayte Parada, Tanya D'Amours, Rhonda Amsel,
Leah Pink, Allan Gordon, Yitzchak Binilk**

Submitted to JSM

- Recruited from patients, visitors to a website, and from online forums
- 346 started out but 216 did not get past the consent page
- 126 completed the questionnaire
- 18-69
- 34% had an undergraduate degrees

- Mean frequency of clitoral pain episodes was 2-3 per week with 29% having episodes daily
- 33% had only clitoral pain
- 67% had other pain: vulva 58%, vagina 59%, nipples 6.3%, breasts 10.3 %, anus 28.6%, pelvis 46.8 %, hips 31.5%, lower back 40.5%, and labia 43.7%
- Treatments of 36.5% included antidepressants, anticonvulsants, and local anaesthetics
- Most common descriptor was “tender”



Chronic Scrotal Pain Syndrome

- Unilateral or bilateral, constant or intermittent pain in the scrotum
- For 3 or more months
- Restricts functioning interferes with the quality of life
- Leads to anxiety and depression
- Switzerland: 350-400 cases per year based on a questionnaire among Swiss Urologists

Chronic Scrotal Pain Syndrome

- Hassan Al-Mustaneer et al (2015)
- Review of cases at the joint Urology/Wasser scrotal pain clinic at Mount Sinai (Multidisciplinary Orchalgia Clinic)
- 80 men
- Submitted for publication

A New Treatment

- [J Sex Med.](#) 2014 Dec;11(12):3072-7. doi: 10.1111/jsm.12707. Epub 2014 Oct 6.
- **OnabotulinumtoxinA (Botox) nerve blocks provide durable pain relief for men with chronic scrotal pain: a pilot open-label trial.**
- [Khambati A¹](#), [Lau S](#), [Gordon A](#), [Jarvi KA](#)
- In middle of double blind placebo controlled trial

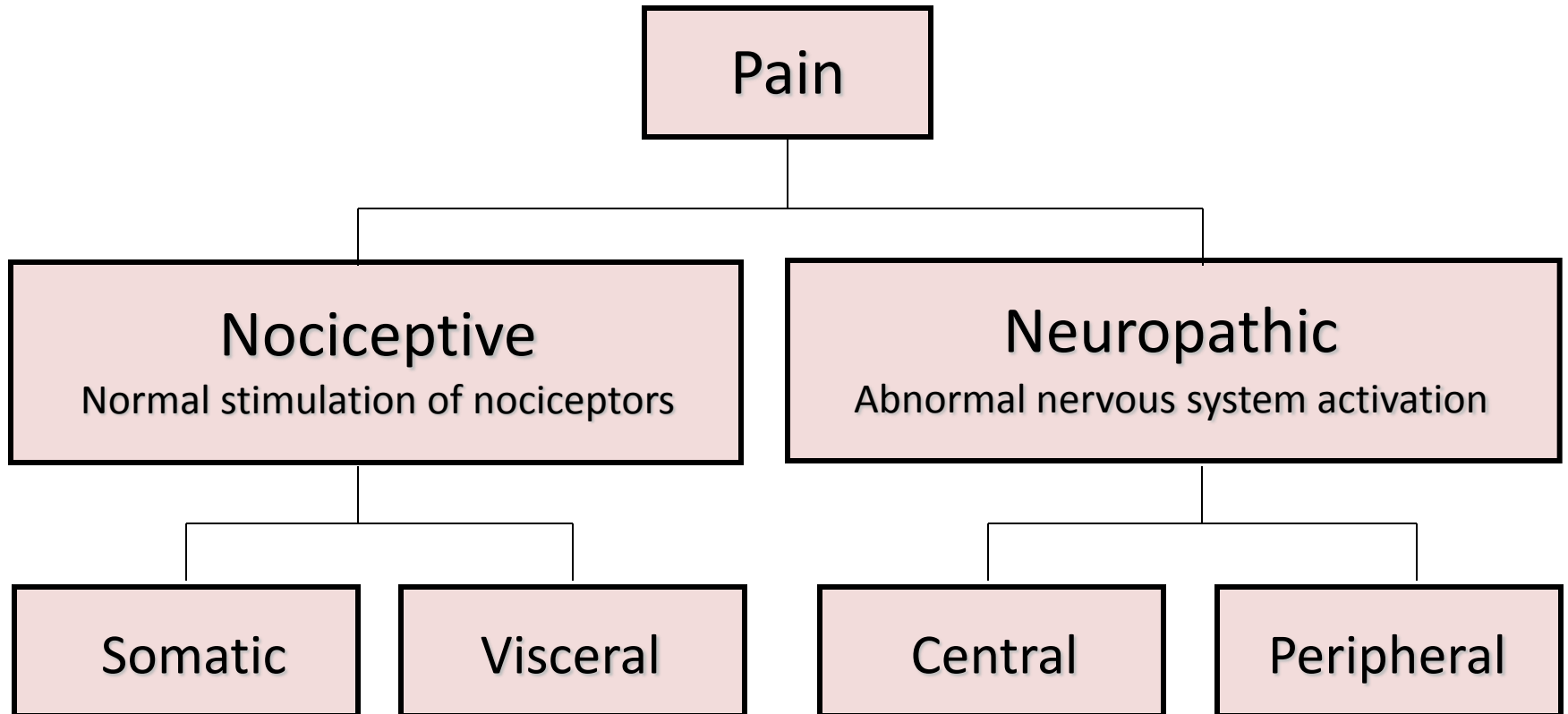
What is Neuropathic Pain?

- NeP has been defined by the International Association for the Study of Pain as pain “initiated or caused by a primary lesion or dysfunction in the nervous system”
- Maladaptive rather than a warning
- Up to 4% of the population (varies) to 8%

Newer Definition

- Neuropathic pain is defined as pain arising as a direct consequence of a lesion or disease affecting the somatosensory system either at peripheral or central level.
- Screening questionnaires are suitable for identifying potential patients with neuropathic pain, but further validation of them is needed for epidemiological purposes.
- Clinical examination, including accurate sensory examination, is the basis of neuropathic pain diagnosis.

Nociceptive vs. Neuropathic Pain



Causes of Peripheral Neuropathic Pain

- Post-herpetic neuralgia
- Diabetic neuropathy
- Post-traumatic
- Peri-operative
- Failed back syndrome
- Cancer
- Para-neoplastic
- HIV
- Trigeminal neuralgia
- Toxic and deficiency
- Radiculopathy
- Pudendal neuralgia
- Provoked vestibulodynia
- Inflammatory
- Radiculopathy
- Genetic
- Trigeminal neuropathic pain

Causes of Central Neuropathic Pain

- Post-stroke pain
- Multiple sclerosis
- Syringomyelia
- Spinal cord injury
- Phantom limb pain

Why is it Important to Diagnose Neuropathic Pain?

- A common cause of moderate to severe pain
- More common and pervasive than is thought and may be overlooked
- Because of common pathophysiology there are algorithms of evidence-based treatment
- Need to focus on prevention of neuropathic pain

There is a commonality of
pathophysiology and therefore
treatment modalities

What Are Some of the Defining Features of Neuropathic Pain?

Symptoms NeP

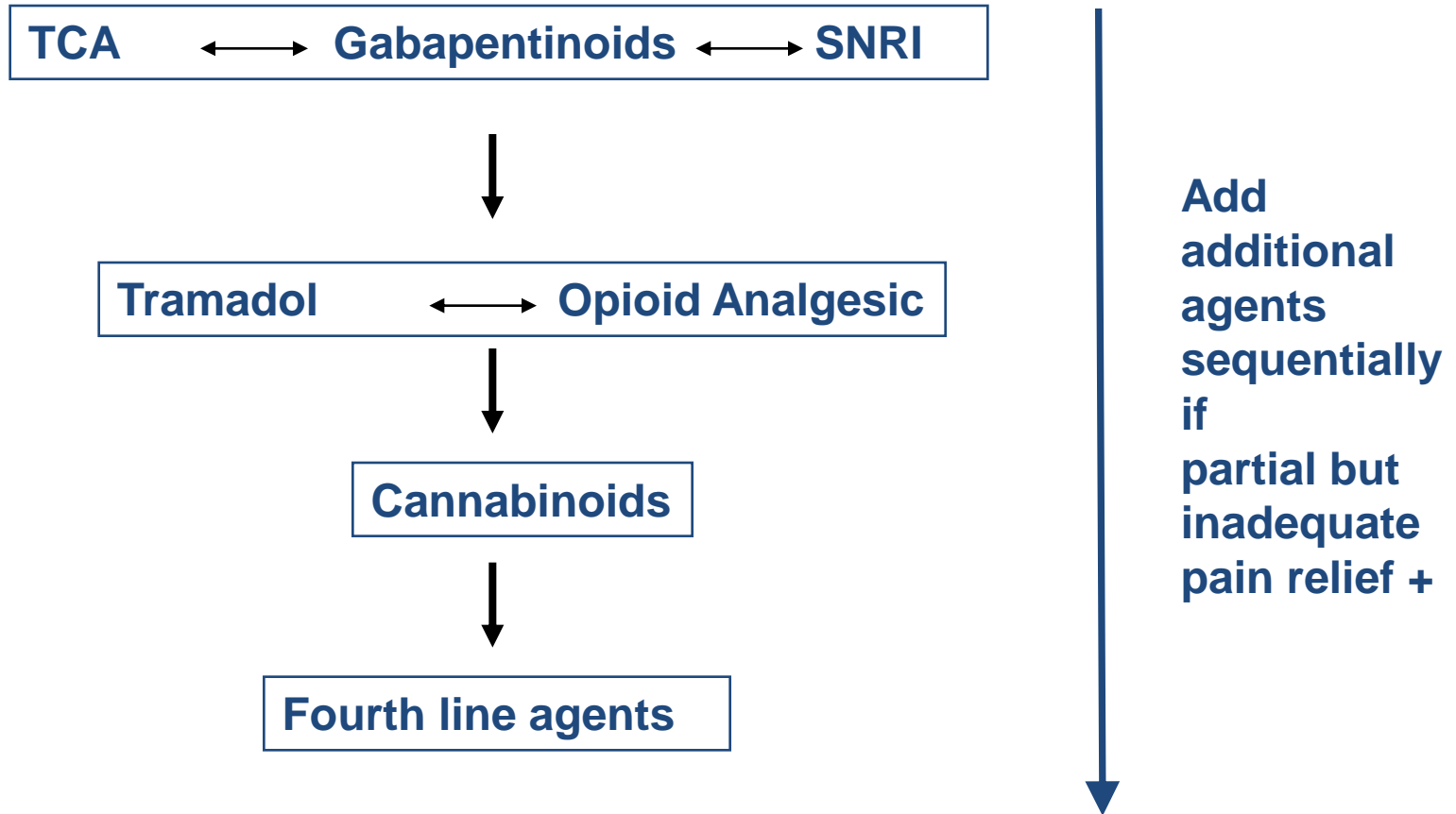
- **Spontaneous pain** occurs independent of any identifiable stimulus. The pain can be continuous or intermittent and tends to vary in intensity.
- **Stimulus evoked pain** includes allodynia (pain due to stimulus that does not normally provoke pain) and hyperalgesia (increased response to stimulation that would normally be painful).

Seen in Neuropathic Pain

- **Hyperalgesia:** increased response to a stimulus that is usually painful (dynamic, static or punctate)
- **Hyperesthesia:** increased sensitivity to thermal or tactile stimulation, excluding the special senses (includes allodynia and hyperalgesia)
- **Dysesthesia:** unpleasant, abnormal sensation, spontaneous or evoked
- **Allodynia:** pain resulting from a stimulus (tactile or thermal)
not normally provoking pain

- PHARMACOLOGICAL MANAGEMENT OF CHRONIC NEUROPATHIC PAIN – REVISED CONSENSUS STATEMENT FROM THE CANADIAN PAIN SOCIETY (2014)
- DE Moulin MD, A Boulanger MD, J Clark MD, H Clarke MD, T Dao MD, GA Finley MD, A Furlan MD PhD, I Gilron MD MSc, A Gordon MD, PK Morley-Forster MD, BJ Sessle MDS PhD, P Squire MD, J Stinson RN PhD, P Taenzer PhD, C Toth MD, A Velly DDS PhD, MA Ware MD, E Weinberg MD, O Williamson MD
- Pain Res Manag 2014 Nov-Dec; 19(6) 328-35

STEPWISE PHARMACOLOGIC MANAGEMENT OF NEUROPATHIC PAIN (Moulin et al, 2014)



* Topical lidocaine (second-line for postherpetic neuralgia), methadone, lamotrigine, lacosamide, tapentadol, botulinum toxin

+ Limited randomized controlled evidence to support add-on combination therapy

First Line Treatments

- Gabapentin
- Pregabalin
- Tricyclic antidepressants
- SNRI (Duloxetine and Venlafaxine)

- Note change from 2007

- Gabapentinoids bind to presynaptic calcium channels in the dorsal horn
- Studied in large clinical trials esp PDN and PHN
- Gabapentin + in 3 PDN and 2 PHN but also negative trials (NNT was 6.4 and 4.3)
- Pregabalin + in 4 PDN and 4 PHN (NNT 4.5 and 4.2)

- There is support for some analgesic combinations in selected neuropathic pain conditions
- Treatment should be individualized for each patient based upon efficacy, side-effect profile and drug accessibility including cost

Second Line Treatments

- Tramadol
- CR Opioids
- (was third line in 2007)

Third Line Treatments

- Cannabinoids (New category)
- Nabilone, oral mucosal spray, and smoked cannabis all show effect
- (Based upon recent evidence of analgesic efficacy in multiple neuropathic conditions)

Fourth Line Treatments

- Methadone
- Anticonvulsants with lesser evidence of efficacy (Lamotragine, Lacosamide)
- Tapentadol
- Botulinum Toxin
- Topical lidocaine and capsaicin

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Post-herpetic neuralgia

- A painful condition affecting nerve fibers and skin.
- The burning pain associated with postherpetic neuralgia can be severe enough to interfere with sleep and appetite.
- Postherpetic neuralgia is a complication of shingles, which is caused by the chickenpox virus. Most cases of shingles clear up within a few weeks.
- But if the pain lasts long after the shingles rash and blisters have disappeared, it's called postherpetic neuralgia.
- Burning, stabbing, aching, painful to touch, spasmodic
- Wince in pain

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PHN

- Shingles is a painful rash caused by reactivation of varicella zoster virus persisting latently in the dorsal root ganglion
- The risk of postherpetic neuralgia increases with age, primarily affecting people over the age of 60. Effective treatment of postherpetic neuralgia is difficult, and the pain can last for months or even years
- Pain is disabling acutely but in some individuals it can last for years
- Approximately 1,000,000 episodes of shingles per year in the US

Signs and Symptoms

- **Generally limited to the area of the skin where the shingles outbreak first occurred. This is most commonly in a band around the trunk, usually on just one side of the body but can involve the face.**
- **Pain. The pain associated with postherpetic neuralgia most commonly has been described as burning, sharp and jabbing, or deep and aching.**
- **Sensitivity to light touch. People who have postherpetic neuralgia often cannot bear even the touch of clothing on the affected skin.**
- **Itching and numbness. Less commonly, postherpetic neuralgia can produce an itchy feeling or numbness.**
- **Weakness or paralysis. In rare cases, there may be muscle weakness or paralysis if the nerves involved also control muscle movement.**

Hair shaft

Initial stage consists of burning pain and sensitive skin

Weakened immune system reawakens virus

Dormant Varicella virus

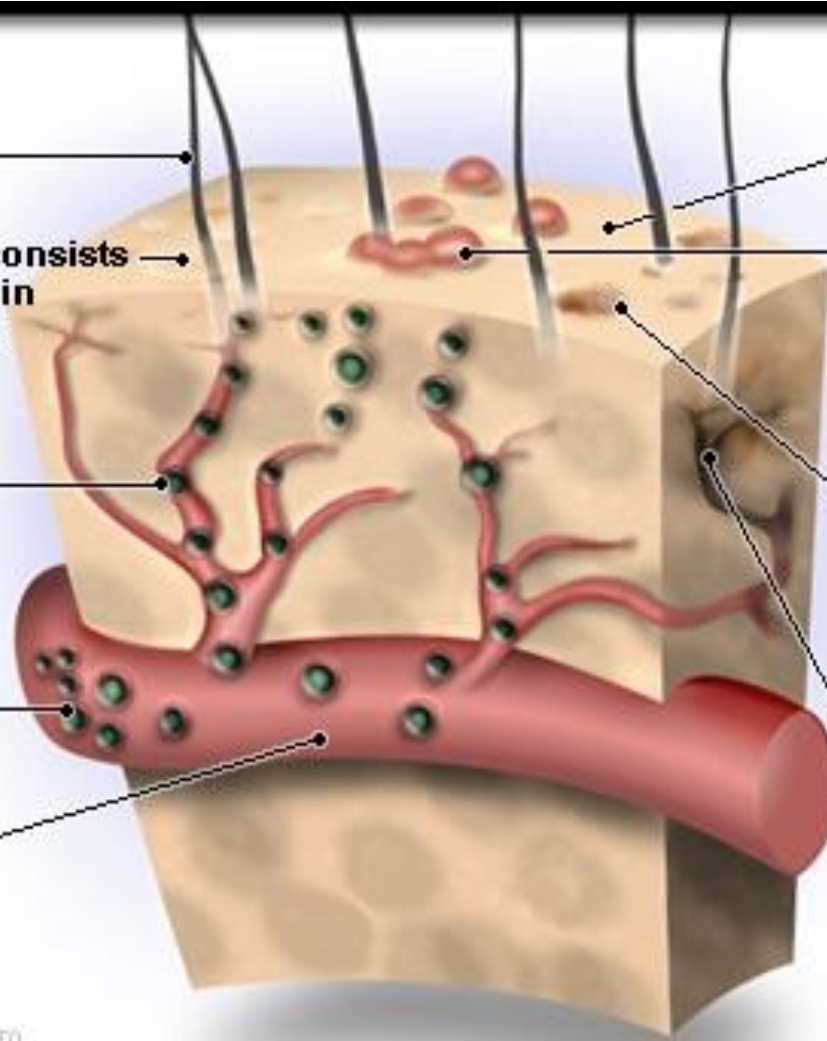
Nerve fiber

Skin surface

Blisters develop resembling chicken pox and fill with pus

Blisters eventually burst, crust over and heal

Nerve damage can cause postherpetic neuralgia





Pharmacotherapy

- Preventive Vaccine
- Early Antiviral
- Level 1 gabapentanoid
TCA
- Level 2 tramadol or CR opioid
- Level 3 ??Cannabinoid
- Level 4 ??Lidocaine,capsaicin ?Botox

Ehlers Danlos Syndrome (TYPE 3) Hypermobile Type

- EDS is a hereditary connective tissue disease first comprehensively described in 1892
- Common features include joint hypermobility, skin hyperextensability, and tissue fragility
- EDS 3 has hypermobility and pain as its hallmark
- Clinical diagnosis is facilitated by the use of the Beighton Score
- Genetic testing of limited value in this variant

But there are many other features

- Fatigue
- Widespread pain
- IBS
- Bladder/IC
- Genital numbness
- Mast cell disturbances
- Marfanoid
- The way they sit
- Headache
- TMD
- Tethered cord
- Chiari
- Hypotension
- POTS syndrome

- Should consider it in all cases of fibromyalgia
- Should consider with multiple dislocations
- Should consider it with prolapse

- We recently reviewed 48 cases
- Look for it in all cases of fibro and small fibre sensory neuropathy

- Treatment so far is symptomatic treatment of pain
- Need to study phenotypes and eventually genotypes
- We see 2-3 new patients per week referred for EDS or with other pain syndromes in which we make a clinical diagnosis of EDS 3
- Family studies important
- Disturbance of collagen but heterogeneous presentations
- We are reporting 48 patients with a variety of symptoms and signs

Five Pillars of Pain Management (Gordon 2012)

- A Assessment including risk
- D Define the condition causing the pain and treat
- D Determine the type of pain ie neuropathic or nociceptive with evidence based treatment
- O Other treatment mood, addiction, sex
- P Personal responsibility/self manage

Recent Advances

- Cannabinoids
- CBT and Mindfulness
- Neurostimulation
- Multidisciplinary Approach

Conclusion

- Have discussed a number of conditions associated with chronic pain:
- Genital Pain
- Neuropathic Pain
- EDS Type 3 Hypermobile Type