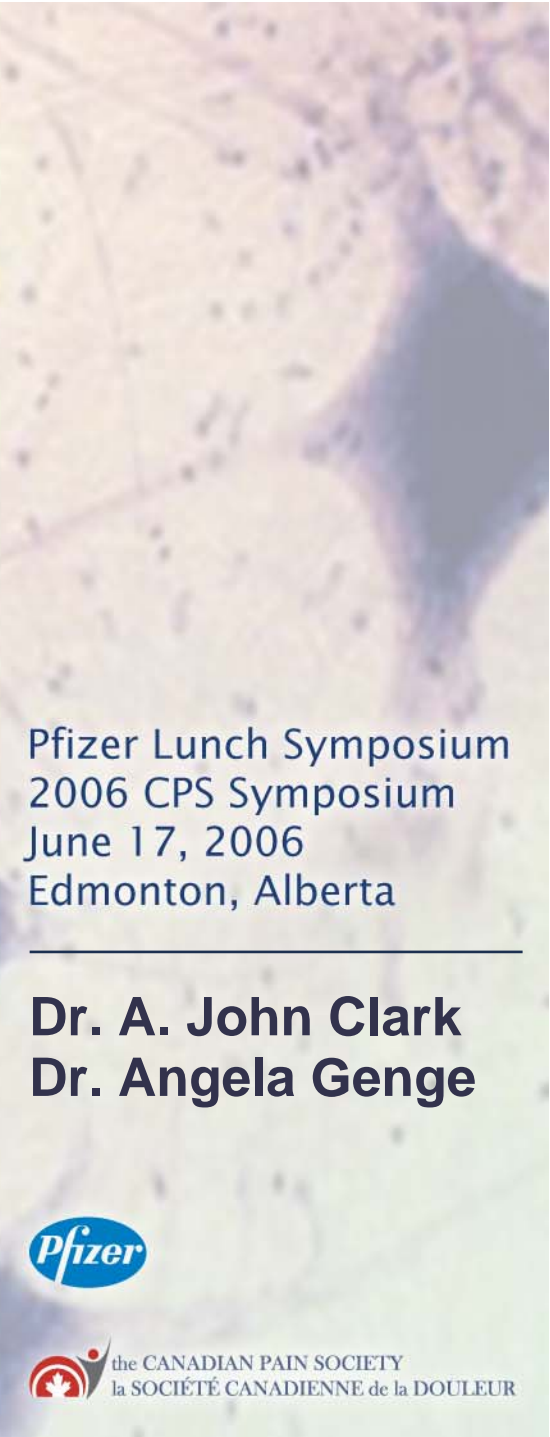
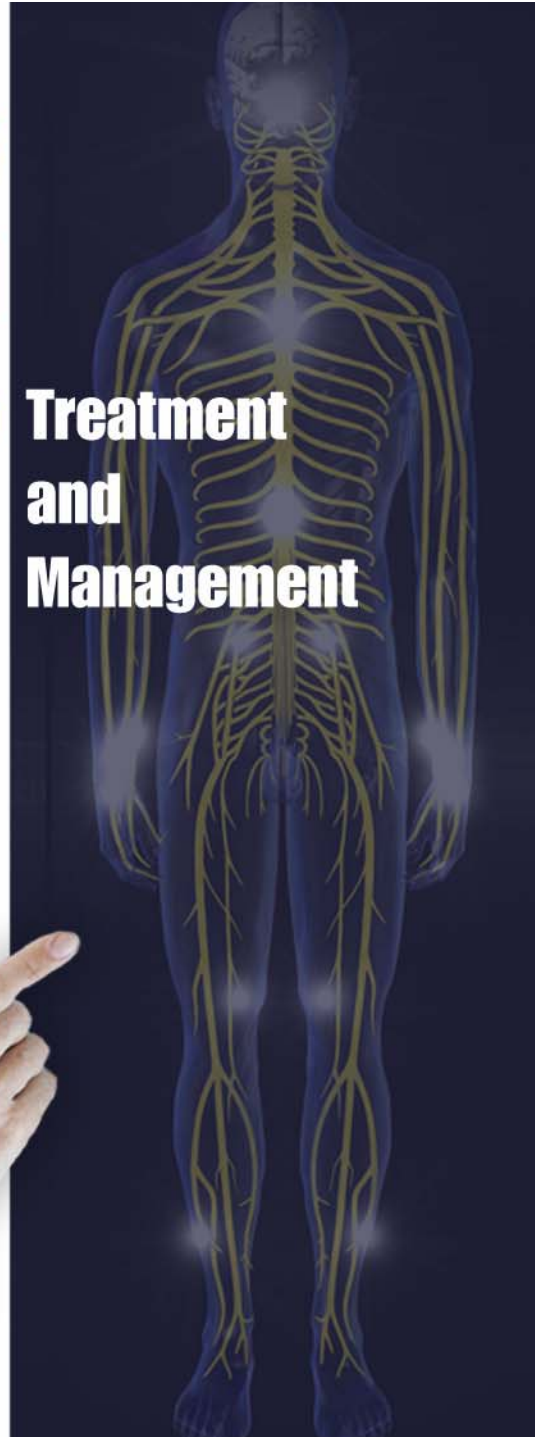


Neuropathic Pain

An Interactive Approach to Treatment and Management



Pfizer Lunch Symposium
2006 CPS Symposium
June 17, 2006
Edmonton, Alberta

Dr. A. John Clark
Dr. Angela Genge



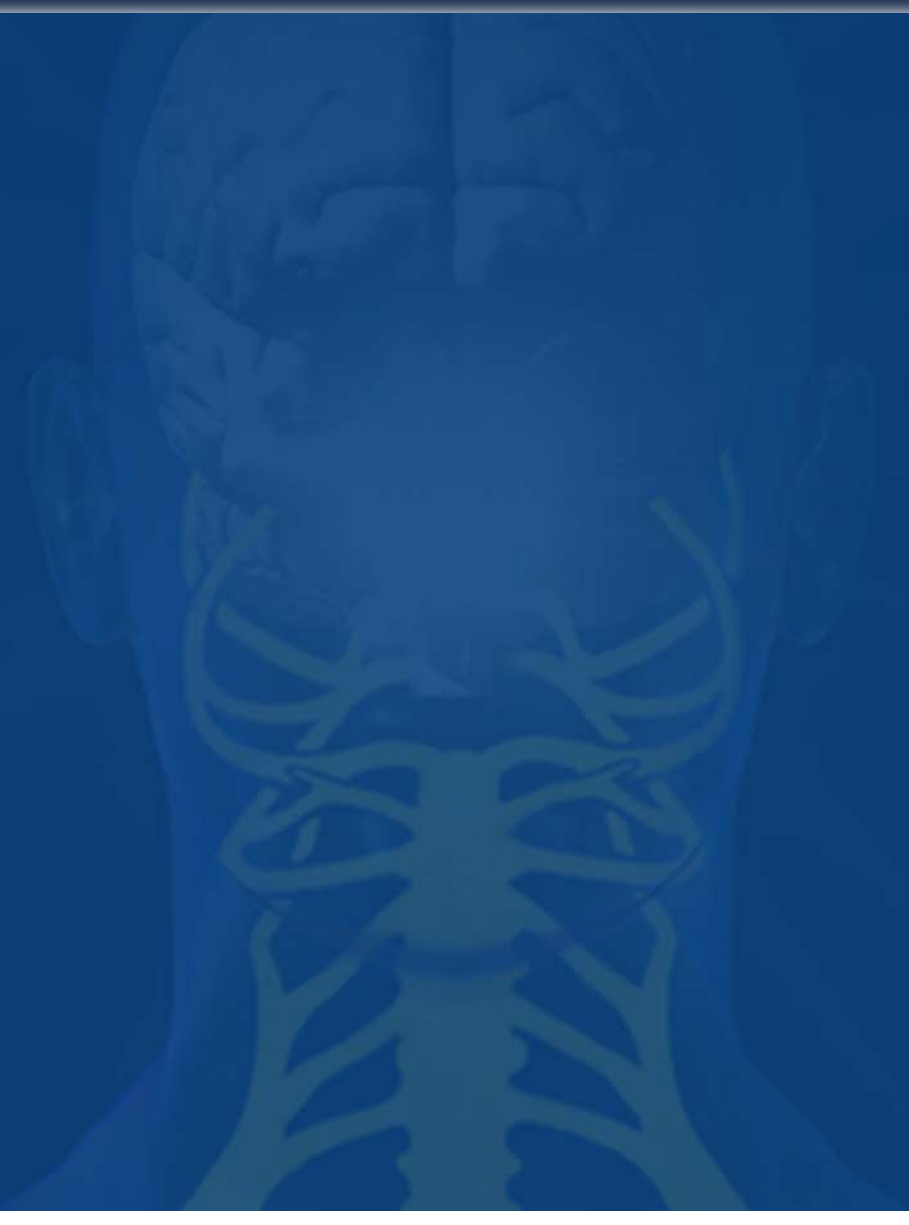
 the CANADIAN PAIN SOCIETY
la SOCIÉTÉ CANADIENNE de la DOULEUR

Disclosures



Touch-pad Question

Are you a:

1. Physician
 2. Nurse
 3. Physiotherapist
 4. Occupational Therapist
 5. Student
 6. Other
- 

Touch-pad Question

Where are you from:

1. Atlantic provinces
2. Quebec
3. Ontario
4. Prairies
5. British Columbia



Overview of Neuropathic Pain

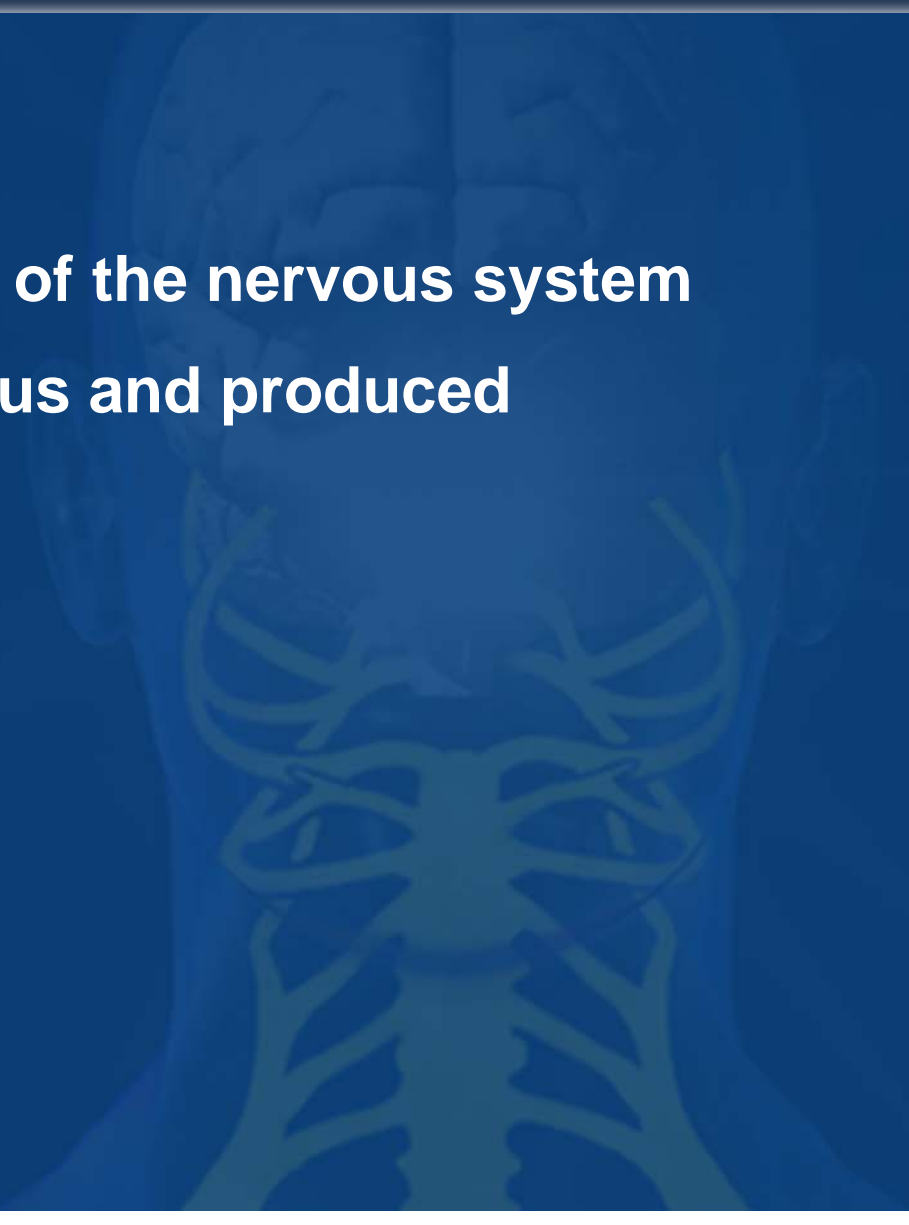
Angela Genge, MD, FRCP(C)

Neurologist, Pain Clinic

Medical Director of Clinical Research Unit,
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Medical Director of Neurological Day Centre
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Neuropathic Pain

- **Non-nociceptive pain**
 - **May originate from any part of the nervous system**
 - **Key features are spontaneous and produced by non-noxious stimuli**
- 

Touch-pad Question

What percentage of diabetics will experience neuropathic pain (NeP)?

1. 5%
2. 20%
3. 40%
4. 60%

Touch-pad Question

What percentage of individuals >50 years of age, who have an episode of shingles, develop postherpetic neuralgia (PHN)?

1. 0-25%
2. 26-50%
3. 51-75%
4. 76-100%

Prevalence/Incidence of NeP

How many Canadians suffer with NeP?

- 20-24% of diabetics experience painful diabetic peripheral neuropathy (DPN)¹
- 25-50% of patients >50 years with herpes zoster develop PHN¹
 - ≥3 months after healing of rash
- Up to 20% develop post-mastectomy pain²
- One third of cancer patients have NeP³
 - Alone or with nociceptive pain
- 7% of patients with lower back pain may have associated neuropathic pain⁴

Prevalence of Neuropathic Pain

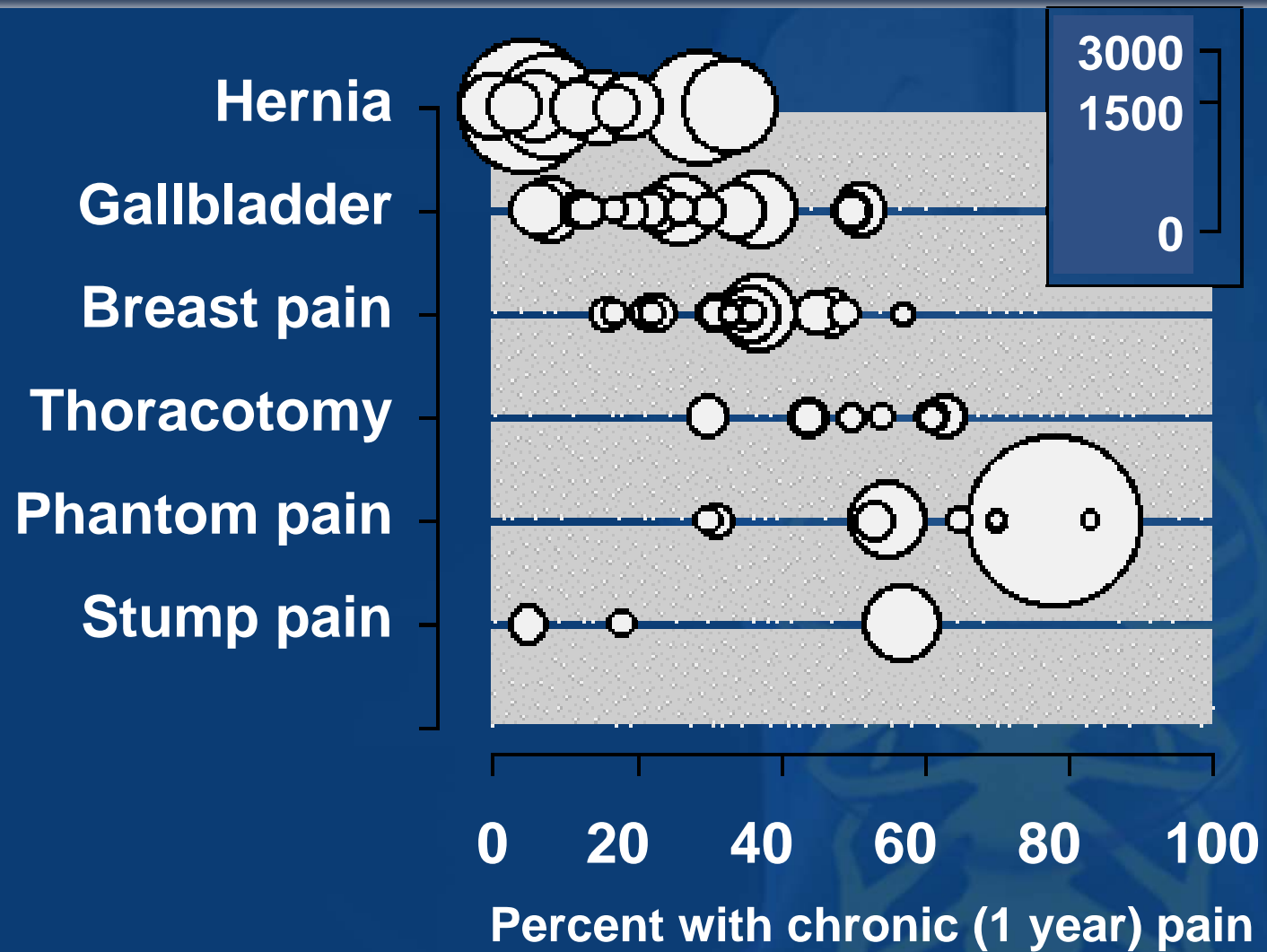
- **Up to 1/3 of patients with cancer develop NeP alone, or in addition to nociceptive pain**
- **2-3% of the general population have NeP**
- **600,000 to 900,000 Canadians suffer from NeP**

Touch-pad Question

What percentage of patients experience prolonged pain after hernia repair?

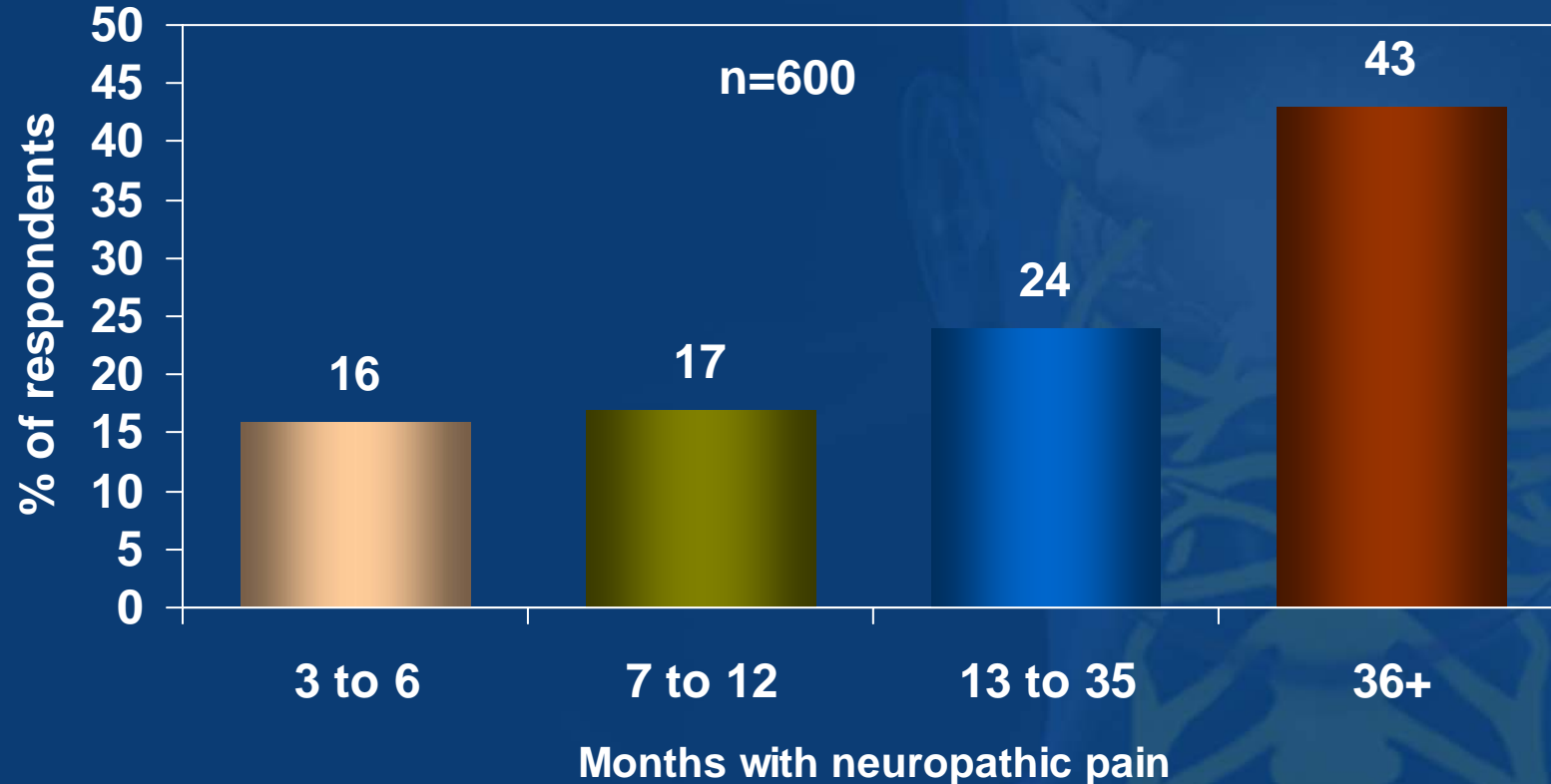
1. <5%
2. 10%
3. 20%
4. 50%
5. 70%
6. >90%

Type of Surgery or Pain



Duration of Neuropathic Pain

67% of patients had NeP for more than 1 year



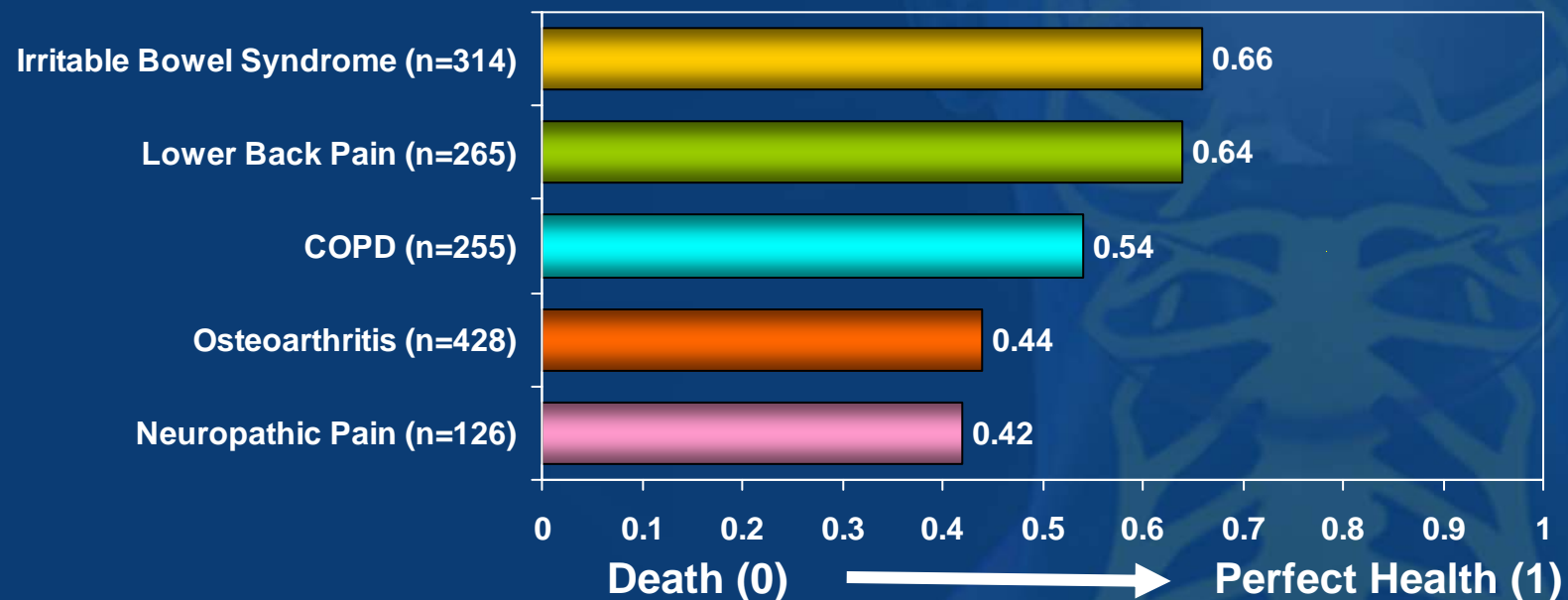
Touch-pad Question

Which condition has the lowest quality of life?

1. Neuropathic pain
2. Osteoarthritis
3. Irritable bowel syndrome
4. Chronic obstructive pulmonary disease
5. Lower back pain

Quality of Life

- **Utility (i.e., Quality of Life) associated with NeP was 0.42**
 - On a scale from 0 (death) to 1 (perfect health), as assessed through the EQ-5D instrument, a widely-used, generic Quality of Life instrument.
- **This utility of 0.42 is lower than the utility associated with other medical conditions***



Neuropathic Pain Survey

The survey was designed to test:

- The impact of NeP on family and work life
- How and when NeP is diagnosed and treated
- How well currently-available treatments meet patient needs
- How the management of NeP varies by country

Countries

A survey of 1,352 diagnosed NeP patients was conducted in 9 countries:

- United Kingdom
- France
- Australia
- Germany
- Italy
- Spain
- Sweden
- Mexico
- Canada

Key Conclusions (Canada)

- **NeP causes extreme disruption in the lives of Canadian sufferers far more than patients in most countries**
- **Nearly nine in ten sufferers describe their pain as “constant”**

Touch-pad Question

What percentage of patients with NeP experience difficulty sleeping?

1. 10%
2. 30%
3. 50%
4. 80%
5. 100%

Key Conclusions (Canada)

Large majorities report that NeP has impacted every aspect of life measured – especially such essential life activities as sleep (82%), mood (82%), work (86%), daily activities (87%) and the ability to enjoy life (87%)

Key Conclusions (Canada)

- NeP sufferers in Canada also express high levels of dissatisfaction with the treatment they receive
- Only 68% of respondents feel that their pain has been properly diagnosed*

* Of the countries surveyed, only Mexico reports a lower percentage of sufferers who feel their pain has been diagnosed correctly.

Key Conclusions (Canada)

Half of all patients in Canada agree with such statements as: “My doctors don’t really know how to treat the kind of pain I have”; or “My doctors don’t seem to understand my pain very well” – compared to the 16% to 38% of respondents who agree with these statements in other countries

* Of the countries surveyed, only Mexico reports a lower percentage of sufferers who feel their pain has been diagnosed correctly.

Key Conclusions (Canada)

- Nearly all Canadian patients (91%) receive a prescription for NeP
- Many feel these treatments are not especially effective in treating their pain
- Fewer than one in four patients says that the Rx he/she takes relieves all or most of the pain
- On average, Canadian sufferers also report taking as many as eight different prescription medications for their pain

Challenging Cases



Dr. A. John Clark

Medical Director
Chronic Pain Centre Calgary Health Region
Calgary, Alberta

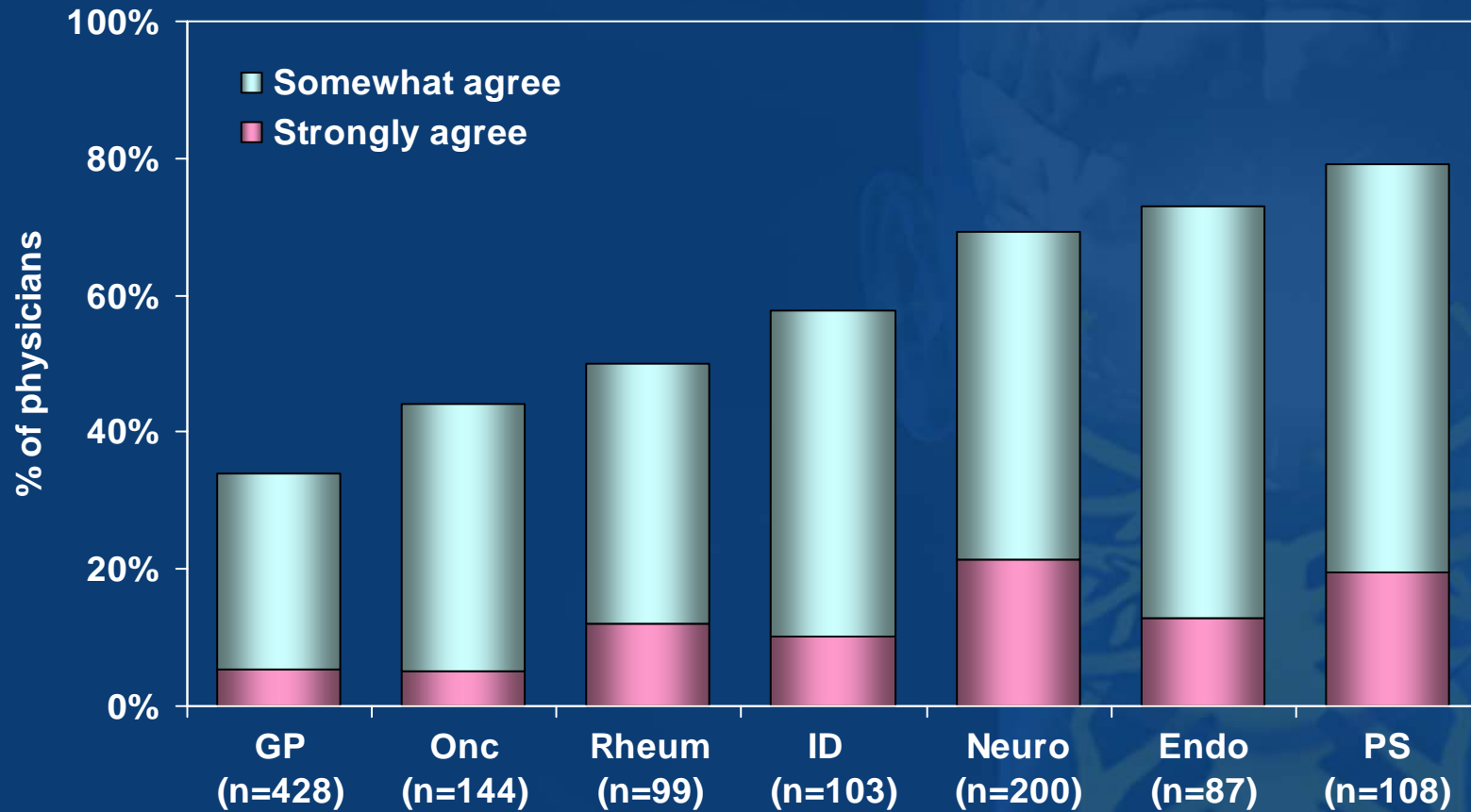
Touch-pad Question

What percentage of physicians say it is easy to diagnose NeP?

1. <5%
2. 10%
3. 20%
4. 50%
5. 70%
6. >90%

Recognizing NeP is a Challenge

“Recognizing most NeP is easy for me.”



PS = Pain specialist

Data on file. Pfizer Inc. Neuropathic Pain Patient Flow Survey 2005.

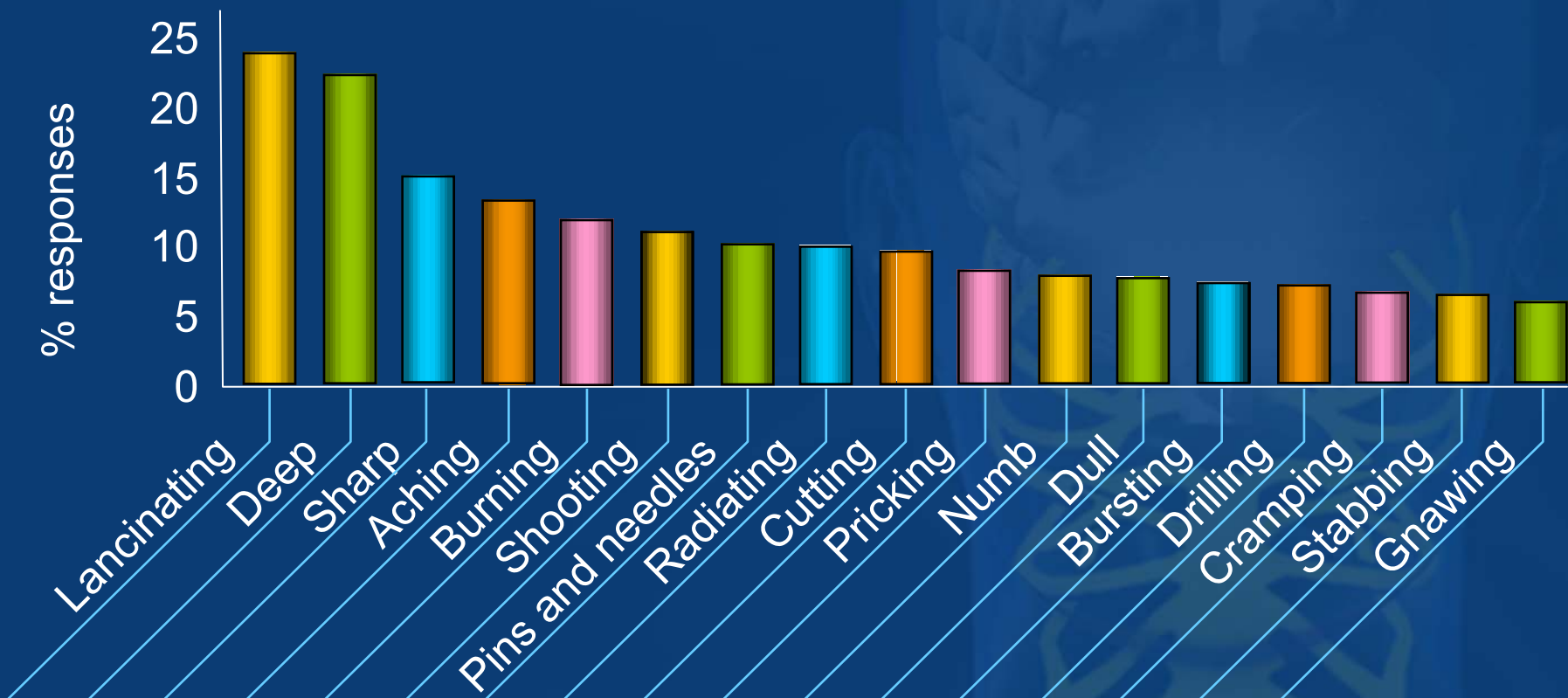
Touch-pad Question

Which word is most commonly used by patients to describe NeP:

1. Aching
2. Lancing
3. Deep
4. Burning
5. Sharp

Descriptions of Symptoms Reported by Patients with Neuropathic Pain*

How would you describe the pain? (n=1,172)



*Includes peripheral, central and mixed pain states. Data on file. Pfizer Inc. Neuropathic Pain Patient Flow Survey.

Touch-pad Question

Have you ever used the DN4?

1. Yes
2. No



Questionnaire DN4

Please complete this questionnaire by ticking one answer for each item in the 4 questions below.

INTERVIEW OF THE PATIENT

Question 1: Does the pain have one or more of the following characteristics?

	YES	NO
1 - Burning	<input type="checkbox"/>	<input type="checkbox"/>
2 - Painful cold	<input type="checkbox"/>	<input type="checkbox"/>
3 - Electric Shocks	<input type="checkbox"/>	<input type="checkbox"/>

Question 2: Is the pain associated with one or more of the following symptoms in the same area?

	YES	NO
4 - Tingling	<input type="checkbox"/>	<input type="checkbox"/>
5 - Pins and Needles	<input type="checkbox"/>	<input type="checkbox"/>
6 - Numbness	<input type="checkbox"/>	<input type="checkbox"/>
7 - Itching	<input type="checkbox"/>	<input type="checkbox"/>

EXAMINATION OF THE PATIENT

Question 3: Is the pain located in an area where the physical examination may reveal one or more of the following characteristics?

	YES	NO
8 - Touch Hypoesthesia	<input type="checkbox"/>	<input type="checkbox"/>
9 - Pricking Hypoesthesia	<input type="checkbox"/>	<input type="checkbox"/>

Question 4: In the painful area, can the pain be caused or increased by:

	YES	NO
10 - Brushing	<input type="checkbox"/>	<input type="checkbox"/>

Patient score: /10

Mr. Joseph

- **Mr. Joseph, age 60**
- **A retired school principal**
- **Has suffered from type 2 diabetes since age 42**
- **Control of diabetes is variable**
- **Fasting blood sugar is often high**

Mr. Joseph

List of problems in file:

- Obesity
- Hypertension
- Dyslipidemia
- Erectile dysfunction
- Hand eczema
- Osteoarthritis in both knees
- Stasis edema

Medication prescriptions:

- Ramipril 10 mg od
- Hydrochlorothiazide 25 mg od
- Atorvastatin 10 mg od
- ASA 80 mg od
- Metformin 850 mg bid
- Glyburide 5 mg 2 po bid
- Sildenafil on occasion

Mr. Joseph

- **Burning sensation in feet, especially in the evening or after sitting for long periods of time**
- **Occasionally feels electric shocks when walking**
- **When he gets up in the morning, it feels like he is walking on pins and needles**
- **When drying himself after a shower, feels a burning sensation in both legs when he touches them with towel**
- **He takes over-the-counter acetaminophen and ibuprofen**
- **Pain was not relieved by these drugs**

Touch-pad Question

Which medication would you use to start treatment of NeP?

1. NSAIDs
2. TCAs
3. Opioids
4. Anticonvulsants
5. Coxibs
6. SSRI/SNRIs

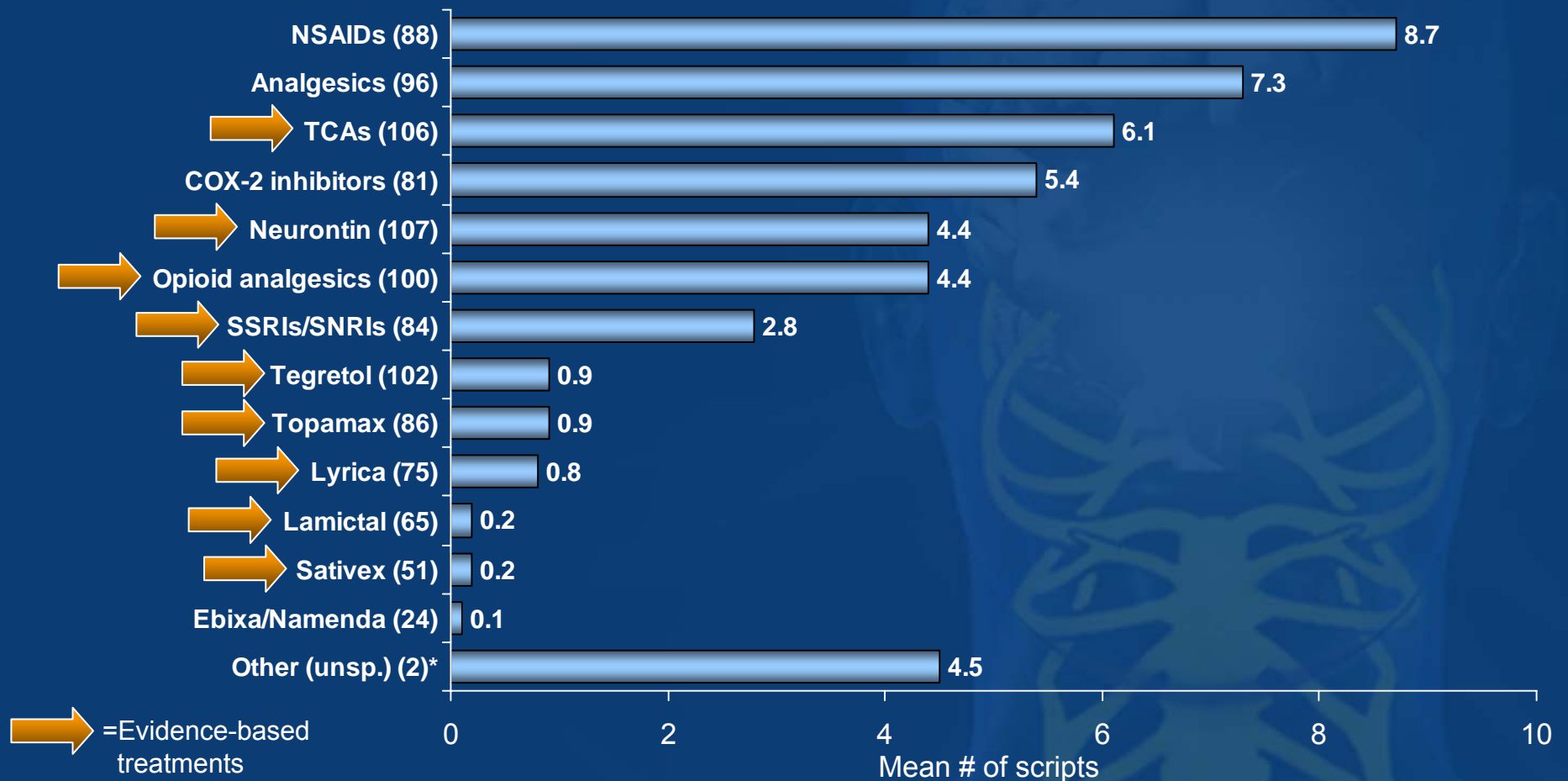
Touch-pad Question

For which of the following medications is there lack of evidence of efficacy in the treatment of NeP?

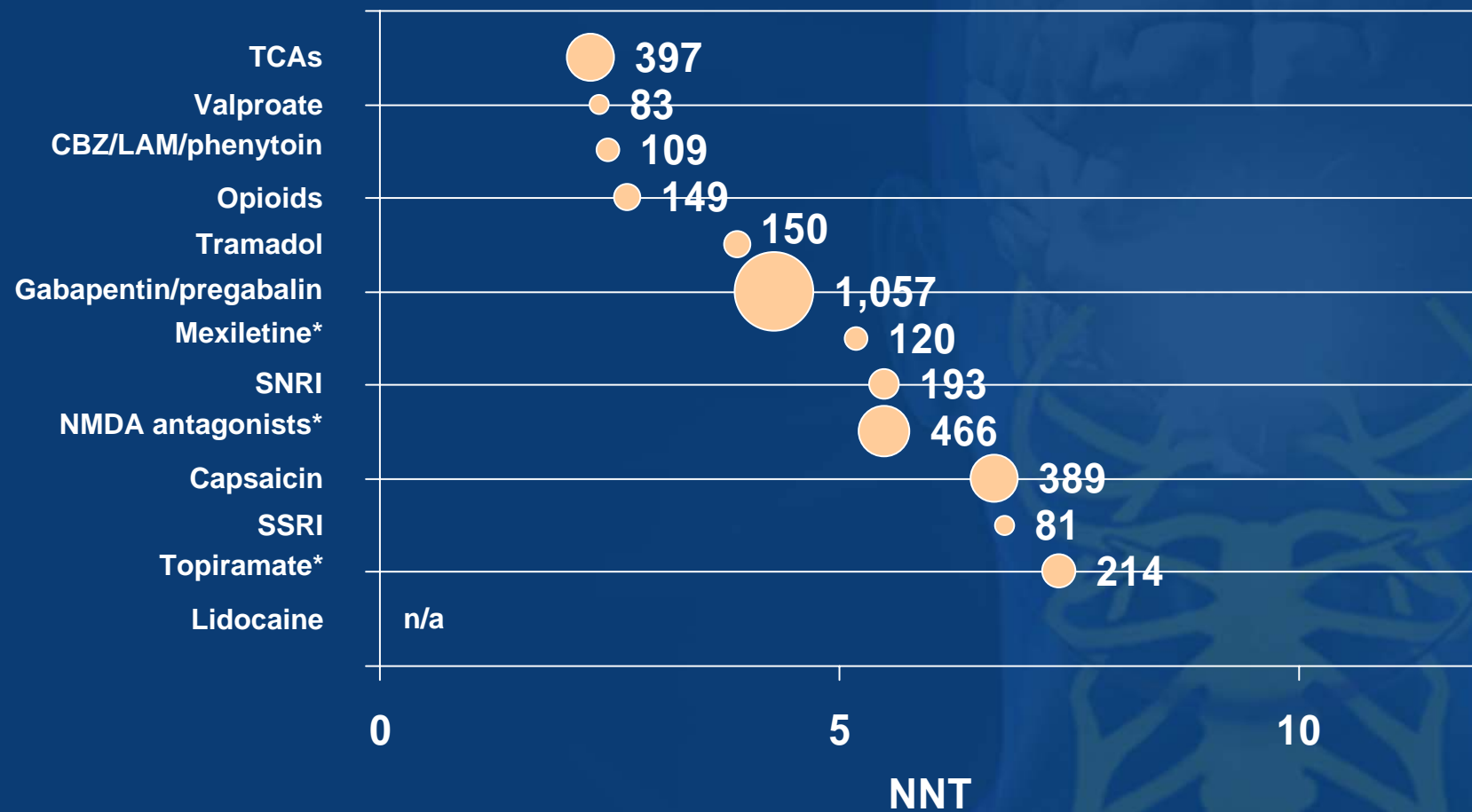
1. TCAs
2. Anticonvulsants
3. NSAIDs
4. Opioids

Treating NeP is a Challenge

Mean patient-starts (GPs): medications for the treatment of NeP



Peripheral NeP Treatments



*= at least half of conducted trials showed no significant effect.

CBZ= Carbamazepine, LAM=Lamotrigine

Finnerup et al. *Pain* 2005;118:289-305.

Mr. Thomson

- **Age 60**
- **Had right ophthalmic herpes zoster 8 months ago**
- **Was given an antiviral at optimum dose as soon as the lesions appeared. Healed normally, but pain still persists**
- **Complains of a continual burning pain (day & night every day)**
- **Intensity of pain is 4-5/10, peaking at 9-10/10**
- **Peaks occur if patient touches his forehead**
- **Has trouble sleeping because of pain**

Mr. Thomson

- **History includes hypertension (controlled by medication) stable angina pectoris and very mild renal failure**
- **He has no allergies, does not smoke or drink alcohol**
- **Physical examination reveals brownish patches on the forehead and allodynia at the site involved**
- **Lab tests: creatinine clearance = 40 ml/min**
- **Current medication:**
 - Ramipril 5 mg qd
 - Atorvastatin 20 mg qd
 - Atenolol 50 mg qd
 - Nitroglycerin 0.4 mg sublingual prn
 - ASA 80 mg qd

Touch-pad Question

As this patient has impaired renal function, how would you adjust the starting dose of an anticonvulsant?

1. No dose adjustment
2. ↓ dose by 1/4
3. ↓ dose by 1/2
4. ↓ dose by 3/4

Touch-pad Question

What is the most common side effect you would expect to see in this patient?

1. Dizziness
2. Infection
3. Dry mouth
4. Somnolence
5. Peripheral edema

Overview of Neuropathic Pain

Angela Genge, MD, FRCP(C)

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Medical Director of Neurological Day Centre
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Montreal, Quebec

Market Research – Neurologists Treatment Algorithms

- **ASA (+/- codeine) and COX-2s have typically already failed**
- **First-line treatment options either TCAs or anticonvulsants:**
 - TCA: amitriptyline
 - Anticonvulsant: gabapentin
 - Note: Carbamazepine was the first-line choice for trigeminal neuralgia

Market Research – Anesthesiologists Treatment Algorithms

- **ASA (+/- codeine) and COX-2s have typically already failed (similar to neurologists)**
- **First-line treatment options either TCAs or anticonvulsants, alone or in combination**
 - TCA: amitriptyline
 - Anticonvulsant: gabapentin
 - Note: carbamazepine was the first-line choice for trigeminal neuralgia
- **Depending on severity of pain, anesthesiologists may initiate parallel therapy**
 - E.g., nerve blocks, local anesthetics, etc.

The Role of GPs

GPs are pivotal in the management and treatment of NeP¹

- **Most patients see their GP first**
 - Approximately 80% of patients are managed by their GP
 - Despite the high prevalence of chronic pain seen by GPs, only a small proportion of patients have NeP
- **GPs are most challenged in recognizing NeP**

Approach to Managing a Patient with Suspected Neuropathic Pain

- **First, determine the cause of the pain**
- **This includes localizing anatomically the part of the nervous system affected**
- **Appropriate investigations to isolate which condition in the differential diagnosis is the culprit**
- **This may require consultations, etc.**

Approach to Managing a Patient with Neuropathic Pain

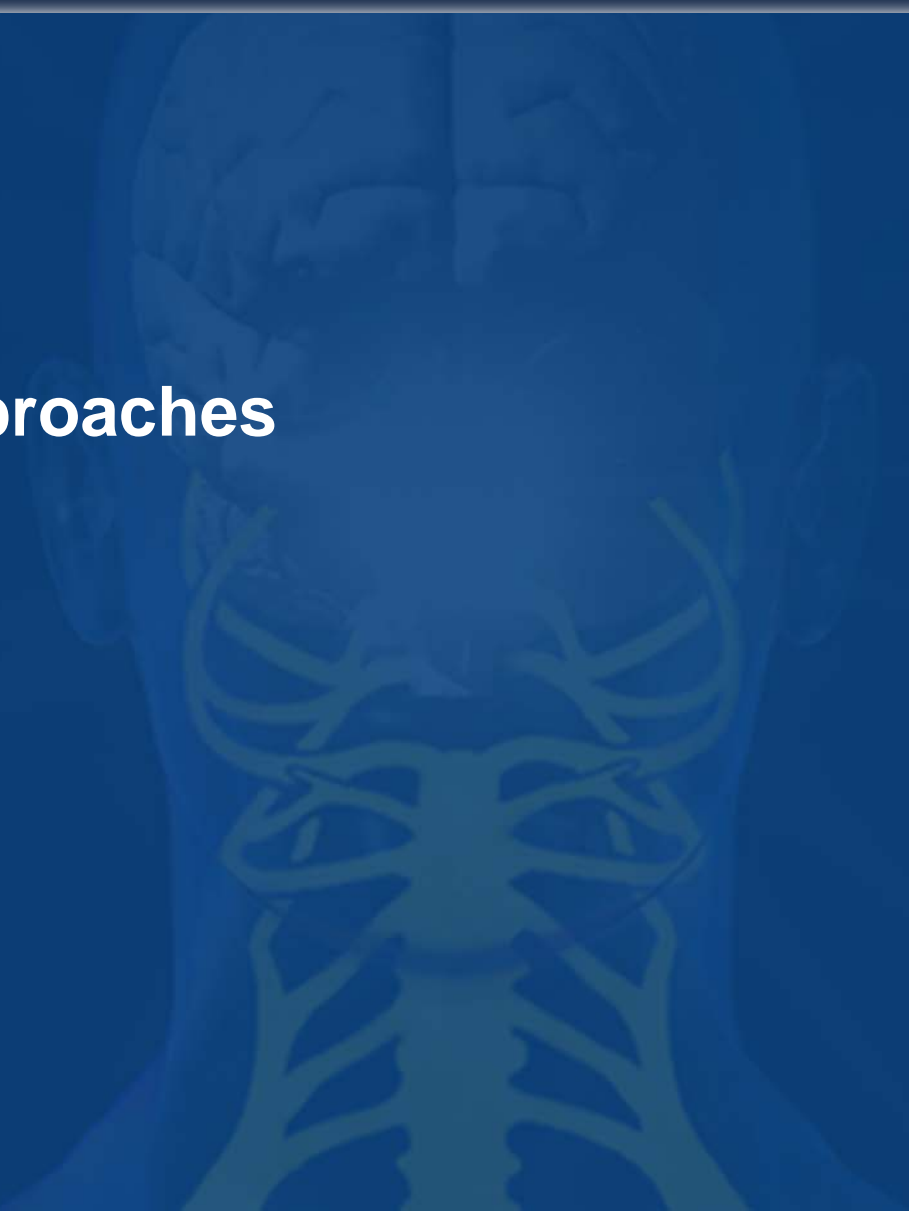
- **If the pain is significant, and the evidence suggests that it is neuropathic, treatment can be initiated simultaneously**
- **Good pain control does not eliminate the need for an accurate diagnosis, if at all possible**
- **Treatment of both the underlying condition and control of pain are joint goals**

Neuropathic Pain: Treat Early

“Early recognition and interdisciplinary treatment is important to prevent a downward spiral of increasing pain and decreased function”¹

- **Inadequate management of acute pain may lead to progression to a chronic pain state²**
- **Short-term stimuli may lead to long-term plasticity and structural changes in the nociceptive pathways^{2,3}**
 - Neuronal hyperactivity
 - Changes in membrane excitability
 - Expression of new genes
- **Acute, intensive intervention may avoid or significantly reduce the development of these changes and chronic pain²**

Treatment Approach

- **TCAAs, anticonvulsants**
 - **Narcotics**
 - **Non-pharmacological approaches**
 - **Surgical interventions**
- 



Questions

Thank you very much

Please fill in the evaluation forms!