Thinking Ahead:
New Treatment Options for Migraine Prevention

Satellite Symposium
Sunday, June 24\(^{\text{th}}\), 2018
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This program was developed by the CNSF, Hc3 Communications and Novartis and was planned to achieve scientific integrity, objectivity and balance. It has been approved for 1.5 hours of Royal College MOC Section 1 credits.
Faculty

**Suzanne N. Christie, MD, FRCPC**
Neurologist
Director, Ottawa Headache Centre
Assistant Professor, University of Ottawa
Ottawa, ON

**Richard Leckey, MD, B.Sc., FRCPC**
Neurologist
Division of Neurology
Dalhousie University,
Halifax, NS
Faculty Disclosures

I, Suzanne Christie, MD, FRCPC, have received Consultant, Speaker, Investigator, Scientific Officer, Steering Committee, Advisory Board, Publication Committee honoraria from the following companies:

Allergan, Amgen, Eli Lilly, Novartis and Teva
Faculty Disclosures

I, Richard Leckey, MD, FRCPC, have received Consultant, Speaker, Investigator, Scientific Officer, Steering Committee, Advisory Board, Publication Committee honoraria from the following companies:

Allergan, Genzyme, Novartis and Pfizer
Learning Objectives

Upon completion of this program, participants will be able to:

**Recognize** the importance of migraine and its significant burden to patients

**Describe** the pathophysiology underlying migraine and the role of the calcitonin gene-related peptide (CGRP) pathway

**Identify** unmet needs with currently available treatments for migraine

**Review** recent data from evolving research and upcoming treatments for migraine prevention including CGRP antagonists
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Migraine in 2018: Burden of Disease and Treatment Challenges
Migraine Phases and Associated Symptoms*

Prodrome
- Changes in vision
- Skin sensations/tingling
- Language problems
- Repetitive yawning
- Food cravings
- Neck stiffness/pain
- Fatigue

Aura
(20% of cases)
- Changes in vision
- Skin sensations/tingling
- Language problems

Headache
- Head pain
- Often unilateral
- Tends to have a pulsating quality
- Can be aggravated by routine physical activity
- Can be associated with cutaneous allodynia

Postdrome
- Repetitive yawning
- Food cravings
- Neck stiffness/pain
- Fatigue
- Unusual sensitivity to light, sounds, and smells
- Lightheadedness and fainting
- Nausea and vomiting

Other symptoms may include:
- Unusual sensitivity to light, sounds, and smells
- Lightheadedness and fainting
- Nausea and vomiting

Time
- Few hours to few days
- 5-60 min
- 4-72 hours
- Few hours to few days

* Migraine patients may not experience all phases and symptoms shown, and not all possible symptoms are listed. † Illustrative only. ‡ Duration per symptom.

Adapted from:

Figure adapted from Blau JN. Lancet. 1992;339:1202-1207.
Episodic and Chronic Migraine are Considered as Part of the Spectrum of Migraine Disorders

- Classification by attack frequency (< or ≥ 15 HD/months)\(^1,2\)
- EM may evolve into CM: EM progresses to CM at the rate of 2.5% per year, and CM often remits to EM (2-year transition rate of 26%)\(^1,3\)

Episodic Migraine (EM)

- Headaches (untreated or unsuccessfully treated) occur <15 days/month\(^1\)

Chronic Migraine (CM)

- Headaches (tension-type and/or migraine) occur ≥15 days/month for ≥3 months\(^1\)
- Headache has features of migraine without aura for ≥8 days/month\(^1\)

Approximately 92% of migraineurs have EM (<15 HD/month) and 8% have CM (≥15 HD/month)\(^4\)

Adapted from:
3. Lipton RB, Headache 2015;55;S2:103
Polling Question

Migraine attacks account for approximately what percentage of an average person’s life?

1. 1%
2. 3%
3. 5%
4. 10%
5. 15%
Migraine: Burden of Disease

The 2016 Global Burden of Disease Study found migraine to have the *highest amount of years lived with disability* of the neurologic disorders and second highest of all diseases studied following low back pain.

The 2015 Global Burden of Disease Study found that migraine is the *3rd cause of disability in under 50s*.

Adapted from:
Migraine: Burden of Disease

Contributors to annual costs:

- Hospitalizations and emergency department visits
- Primary care and specialist visits
- Procedures and diagnostic tests
- Medication
- Loss of productivity

Treatments that reduce headache frequency could reduce the clinical and economic burden

Adapted from:
Migraine is Disabling

Real-world data from the Adelphi Migraine US Disease Specific Program (2014) show that pain, nausea and photophobia were the key symptoms reported by patients as impacting their work and lifestyle.

Migraine is Disabling

Migraine attacks account for **about 5% of an average person’s life**; the percentage is substantially higher in those with severe chronic migraine.

Depression is **3 times more common** in people with migraine or severe headaches than in healthy individuals.

In the USA, headache or pain in the head is the 4th leading cause of visits to the emergency department.

Migraines/headaches account for 3.1% of all visits to emergency departments.

Adapted from:
Migraine Negatively Impacts Personal Activities

In the preceding 3 months, migraine patients lost 3.2 workdays, 4.6 housework days and 2.1 social days.

Personal impact of migraine assessed as headache-attributed lost work, housework and social days in preceding 3 months: Eurolight project

Adapted from:
HALT, Headache attributed lost time (including work days lost, days of household work or days on which family, social or leisure activities were lost).
In 2009, the International Burden of Migraine Study (IBMS) collected data on headache-related disability with MIDAS

- Assessed the extent to which the following activities were missed as a result of headache over the previous 3 months:
  - Schoolwork/paid employment
  - Household work or chores
  - Non-work activities
  - Total scores ranged from 0 (no disability) to 270 (very severe disability)

23.3% of EM and 78.0% of CM patients, reported severe (grade IV-A) or very severe (grade IV-B) headache-related disability
Migraine is Costly

**EuroLight Project**
- Cross-sectional survey in 8 countries (55% of European adult population)
- Mean per-person annual costs were €1222
- Total annual cost of migraine in EU: €111 billion

**In the UK**
- 25 million days are lost from work or school each year because of migraine, costing £2.25 billion
- The cost to the NHS is £150 million per year
- Despite its economic impact, migraine is the least publicly funded of all neurological illnesses

Adapted from:
Current Challenges: Migraine is Underdiagnosed

- World-wide, 60% of individuals with migraine are not professionally diagnosed

- About 50% of patients consult a clinician

- There is a lack of professional training:
  - ~ 4 hours are allocated to undergraduate training
  - ~ 10 hours are allocated for specialist training

Current Challenges: Migraine in Undertreated

Worldwide, about 50% of people with migraine are self-medicating

In the AMPP study of migraine treatment:
• 49% used OTC medication only
• 29% used prescription and OTC medication
• Only 1 in 8 received preventive therapy

AMPP: American Migraine Prevalence & Prevention; OTC: Over the counter
Preventive Strategies are Being Underused

Migraine patients who consulted a HCP received a diagnosis and received treatment

- **Episodic Migraine (N=775)**: 25%
- **Chronic Migraine (N=1,254)**: 5%

HCP: Healthcare professional
Preventive Strategies are Being Underused

Persistence to the initial treatment was 25% at 6 months and 14% at 12 months

Adapted from: Hepp Z et al. Cephalalgia 2017; 37:470-85
Reasons for Poor Adherence

Side-effects and lack of efficacy are the key drivers of suboptimal adherence


Reasons reported by patients for discontinuation of preventive medication

- Antidepressants (N=205)
- Anti-epileptics (N=125)
- β-blockers (N=130)
- Calcium-channel blockers (N=59)

Reasons reported by patients for discontinuation of preventive medication

Clinical Challenges: Episodic Migraine

Sophie
24 year-old female
Student

• On **average** 4 moderate-to-severe migraines per month

• Takes **OTC medications** often **combined** with a **triptan**

• Migraines still **take 2-3 days** to resolve

• She is **struggling with continuing** with her university **studies** due to all these **unplanned absences** and **impact** on her **productivity**
Clinical Challenges: Chronic Migraine

- On average **16 headache days per month**

- Has tried **multiple preventive treatments** for migraines, which have only had a minor impact on her migraine frequency and duration

- She is **struggling** with keeping her **employment** and large amount of sick days and has needed to bring in **extra help with her children**, which has all contributed to increased financial and emotional stress
Summary: Current Challenges with Migraine Treatment

• Underdiagnosis and undertreatment

• Current prophylactic drugs are repurposed from other conditions

• Issues with available preventive strategies, specifically efficacy and tolerability

• Long-term adherence can be problematic due to tolerability issues and modest efficacy

• Acute treatments do not demonstrate efficacy in a high percentage of cases; patients respond to acute treatment for some, but not necessarily all, attacks of migraine

• Comorbidities can restrict treatment choice

Adapted from:
Migraine: Pathophysiology Introduction

• Current thinking is that migraine is a complex condition which is thought to involve the vasculature, central and peripheral neuronal pathways involved in pain signalling, as well as inflammation.

• While the events that actually initiate a migraine attack remain unknown, activation of the trigeminovascular system is considered key.

Polling Question

The most abundant neuropeptide in the trigeminal system is:
1. Substance P
2. CGRP
3. Calcitonin
4. Neurokinin A

CGRP = calcitonin gene-related peptide
Migraine headache is thought to involve the trigeminal system. While the brain lacks pain receptors (nociceptors) they are present in the dura and pia of the meninges. Migraine pain is transmitted from the meninges through the trigeminal nerve. CGRP is the most abundant neuropeptide in the trigeminal system and is associated with migraine attacks.

CGRP = calcitonin gene-related peptide.
Migraine Involves Activation of Peripheral and Central Components of the Trigeminal System

Pathophysiology includes:

**Trigeminovascular activation**
1. Peripheral vasodilation and neurogenic inflammation
2. Peripheral afferent signals to trigeminal ganglion (TGG)
3. CNS pain signals relay to higher order structures (i.e. TNC and cortex)

**CGRP neuropeptide is enriched in the migraine pathway**

The key pathway for pain in migraine

Trigeminovascular input from the meningeal vessels passes through the trigeminal ganglion and synapses on second-order neurons in the brainstem before being relayed to the sensory cortex.

CGRP = calcitonin gene-related peptide; CNS = central nervous system; TGG = trigeminal ganglion; TNC = trigeminal nucleus caudalis.

Adapted from:
Migraine Pain Starts with ‘Abnormal’ Activation of the TGVS

- The cause of migraine is unclear but involves abnormal activation of the TGVS

  - TGVS activation causes release of various neuropeptides at the meninges:
    - Calcitonin
    - CGRP
    - Neurokinin A
    - Substance P

  - These peptides can induce neurogenic inflammation

- Inflammation and dysregulation contribute to a feed-forward loop, causing migraine

CGRP = calcitonin gene-related peptide; TGG = trigeminal ganglion; TGVS = trigeminovascular system.

A Feed-forward Loop in the TGVS Creates a State of Hypersensitivity and Sustained Pain

TGN = trigeminal nerve; TGVS = trigeminovascular system; TNC = trigeminal nucleus caudalis.

Adapted from:
Polling question:

Which of the following statements is FALSE?

1. CGRP is a 37-amino acid neuropeptide derived from the gene encoding calcitonin

2. CGRP functions as a messenger in nerve cells and as a vasodilator

3. In the trigeminocervical complex, CGRP acts on second-order neurons to activate spinothalamic pathways

4. CGRP levels are decreased in migraine sufferers

5. Triptans suppress CGRP release from trigeminal nerves

CGRP = calcitonin gene-related peptide
What is Calcitonin-related Gene Peptide (CGRP)?

CGRP is a 37-amino acid neuropeptide derived from the gene encoding calcitonin. It functions as a messenger in nerve cells and as a vasodilator.

CGRP exists in two forms in humans: the α form predominates.

CGRP = calcitonin gene-related peptide

Adapted from: Amara SG et al. Nature 1982;298:240
Where are CGRP and their Receptors Located?

CGRP and CGRP receptors are widely expressed throughout the body.

Of importance to migraine, CGRP and CGRP receptors are found in the central nervous system (CNS) and throughout the trigeminovascular system.

Binding studies showed:
• Co-expression of CLR and RAMP-1 in smooth muscle of human cranial vessels
• CGRP and CGRP receptor expression in the dura mater and the trigeminal ganglion
• In the spinal cord, CGRP expression in un-myelinated fibres (C-fibres); CGRP receptor expression in myelinated fibres (A-delta-fibres)
• In humans, CGRP binds densely in the cerebellum

Adapted from:
CGRP Plays a Pivotal Role in Migraine

Adapted from: Russell FA et al. Physiol Rev 2014;94:1099.

CGRP = calcitonin gene-related peptide

CGRP = calcitonin gene-related peptide
In the trigeminocervical complex, CGRP acts on second-order neurons to activate spinothalamic pathways.
Trigeminal Ganglion Stimulation Increases CGRP in the Cranial Circulation

• Activation of the trigeminal ganglion increased levels of substance P-like and CGRP-like immunoreactivity.

• These findings suggested a putative role of these peptides in the pathophysiology of migraine.

CGRP = calcitonin gene-related peptide

CGRP Levels are Increased in Migraine Sufferers

- During migraine attacks (with or without aura) CGRP levels increase in the extracerebral circulation (external jugular blood)

- Only CGRP levels are elevated; there is no change in other peptides thought to be involved in pain transmission

CGRP = calcitonin gene-related peptide; CONT = Control

Sumatriptan Suppress CGRP Release from Trigeminal Nerves

Sumatriptan acts via presynaptic 5-HT1B/D receptors to suppress CGRP release from trigeminal nerves.

Treatment with sumatriptan normalized the increase in CGRP levels seen in acute migraine, with relief of headache pain.

CGRP = calcitonin gene-related peptide; 5-HT = serotonin; VIP: vasoactive intestinal peptide; SP: substance P
Clinical and preclinical studies demonstrated that BOTOX acts via direct and indirect peripheral and central nociceptive pathways through the inhibition of the release of neuropeptides including CGRP.

CGRP = calcitonin gene-related peptide; OBOT-A = Onabotulism toxin A; NK = Neurokinin; SP = Substance P; SNAP = synaptosomal-associated protein

Adapted from:
Do CGRP-targeted Agents Need to Cross the Blood-brain Barrier?

The trigeminal ganglion is a key site of action for CGRP in migraine

- CGRP and CGRP receptors are expressed in the trigeminal ganglion. As the trigeminal ganglion is expressed outside the blood-brain barrier (BBB), therapeutic agents do not need to penetrate the BBB to act.

CGRP = calcitonin gene-related peptide

Targeting CGRP or the CGRP Receptor?

Therapeutic monoclonal antibodies have been developed that inhibit the activity of CGRP at the CGRP receptor. However, the cross-talk inhibition is different.

**Monoclonal antibodies to the CGRP receptor**
- Only inhibit function at the CGRP receptor
- Leaving other calcitonin-family receptors functionally intact
- To date, only one monoclonal antibody therapeutic targets the CGRP receptor: Erenumab

**Monoclonal antibodies to the CGRP ligand**
- Inhibit the function of CGRP at all calcitonin-family receptors
- To date, 3 monoclonal antibodies to the CGRP ligand are in development: Eptinezumab, Fremanezumab, Galcaenzumab

CGRP = calcitonin gene-related peptide

# Therapeutic Monoclonal Antibodies vs. Small Molecule Therapies

<table>
<thead>
<tr>
<th>Monoclonal antibodies</th>
<th>Small molecule therapies</th>
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<tr>
<td>Larger (~150 kD); mainly extracellular</td>
<td>Smaller (&lt;1 kD); able to enter cells and cross blood-brain barrier</td>
</tr>
<tr>
<td>Target-specific</td>
<td>Less specific</td>
</tr>
<tr>
<td>Parenteral administration</td>
<td>Oral administration possible</td>
</tr>
<tr>
<td>Longer dosing interval (half-life: days to weeks)</td>
<td>Shorter dosing interval (half-life: hours)</td>
</tr>
<tr>
<td>Not eliminated via hepatic, renal or biliary routes</td>
<td>Elimination via hepatic, renal and/or biliary routes</td>
</tr>
<tr>
<td>Lower risk of drug-drug interactions</td>
<td>Drug-drug interactions possible</td>
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</tbody>
</table>

Adapted from: Silberstein S et al., Headache 2015;55:1171.
Benefits of Therapeutic Monoclonal Antibodies

• No toxic metabolites (broken down to constituent amino acids)

• Restricted distribution

• Pharmacokinetics allow for longer dosing intervals (half-life days to weeks)

• Do not have a high degree of off-target toxicity

Adapted from:
Summary: Migraine Pathophysiology

• Migraine is a complex condition which is thought to involve the vasculature, central and peripheral neuronal pathways involved in pain signalling, as well as inflammation.

• Activation of the trigeminovascular system is considered key and leads to the release of neuropeptide, induction of neurogenic inflammation contributing to a feed-forward loop, causing migraine.

• Growing evidence suggests that CGRP plays a pivotal role in migraine prevention and treatment.

• Based on this, small molecules and monoclonal antibodies have been developed to inhibit CGRP and its receptor.

CGRP = calcitonin gene-related peptide
Migraine Treatment: Old and New
Polling Question

Which of the following classes of medications do you use most often for migraine prophylaxis?

1. Antihypertensive
2. Antidepressant
3. Antiepileptic
4. Vitamins/minerals
5. Other
Migraine is a Neurologic Condition with Recurrent Attacks Varying in Frequency, Duration, and Disability

General principles of management

Establish a diagnosis

Educate migraine sufferers about their condition

Set realistic patient goals; discuss expected benefits of therapy

Encourage patients to identify and avoid migraine triggers

Develop formal management plan, individualize treatment, and consider comorbidities

Empower patients to be actively engaged in their treatment; track their progress

Adapted from:
AAN = American Academy of Neurology.
# Migraine Treatment Goals (AAN/ASH Guidelines)

## AAN and AHS treatment goals for acute and prophylactic therapy

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<tr>
<th>Acute[^1,^2]</th>
<th>Prophylactic[^2,^3]</th>
</tr>
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<tbody>
<tr>
<td>1. Treat attacks rapidly and consistently without recurrence</td>
<td>1. Reduce frequency, duration, or severity of attacks</td>
</tr>
<tr>
<td>2. Restore the patient’s ability to function</td>
<td>2. Enhance responsiveness to acute therapy</td>
</tr>
<tr>
<td>3. Minimize the use of back-up and rescue medications</td>
<td>3. Improve the patient’s ability to function</td>
</tr>
<tr>
<td>4. Optimize self-care and reduce subsequent use of resources</td>
<td>4. Reduce disability</td>
</tr>
<tr>
<td>5. Be cost-effective for overall management</td>
<td>5. Reduce healthcare costs</td>
</tr>
<tr>
<td>6. Have minimal or no adverse events</td>
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The goals of acute and prophylactic therapies are distinct but complementary

Acute Treatment Strategies (CHS)

**Mild to Moderate Attack**
- Acetaminophen
- Ibuprofen
- ASA
diclofenac potassium for oral solution
diclofenac potassium tablets
naproxen sodium
± metoclopramide

**Moderate to Severe Attack / NSAID Failure**

**NSAID w Triptan Rescue**
- NSAID ± metoclopramide
+ a Triptan later for rescue if necessary

**Triptan**
- Triptan ± metoclopramide
- Sumatriptan, SC injection, nasal, oral
- Zolmitriptan, nasal, oral, wafer
- Rzatriptan, oral, wafer
- Naratriptan, oral

ASA: acetylsalicylic acid; NSAID: non-steroidal anti-inflammatory drug; SC: subcutaneous
Adapted from: Worthington et al., Can J Neurol Sci 2013;40:S1-S80
Refractory Migraine: Rx treatment Strategies (CHS)

- **Triptan + NSAID**
  - Triptan + NSAID (simultaneously) ± metoclopramide

- **Triptan + NSAID w/ rescue**
  - Triptan + NSAID (simultaneously) ± metoclopramide + ≥1 for rescue later (as necessary) of:
    - Ketorolac
    - Indomethacin
    - Prochlorperazine
    - Chlorpromazine
    - Dexamethasone or prednisone
    - Opioid combination analgesic (last resort)

- **Dihydroergotamine**
  - Dihydroergotamine (nasal, or SC, IM self inj.) ± metoclopramide

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**SC:** subcutaneous; **IM:** intramuscular; **NSAID:** non-steroidal anti-inflammatory drug

Adapted from Worthington et al., *Can J Neurol Sci* 2013;40:S1-580
How Do Physicians Choose Between Treatment Options?

• It can be **difficult** to **decide** between **treatment options**

• **Decisions** are made on a **case-by-case basis** and taking into account any comorbidities, the patient’s age and history of side effects and response to previous medications

• **Goal** is to **choose** the **most efficacious** and **best tolerated option** for each patient

• **Other considerations:**
  • When selecting a triptan, choose a non oral route (NS or SC) for patients that vomit
  • If patients wake up with a migraine that is already severe, SC sumatriptan as a good option
  • For patients that are sensitive to side effects, choose almohtripan or naratriptan which have a better side effect profile than the other triptans
New Treatment Strategies: Targeting CGRP

- **Small molecules** (gepants) were developed specifically for migraine prevention
- These small molecules are **orally administered** and can cross the blood brain barrier
- **Six** gepants were found to be **effective** in **acute migraine treatment**
- Two of these were found to be associated with elevated transaminase levels when used for prevention in some patients
- There are currently newer gepants in clinical development (e.g. ubrogenpant, rimegepant)

CGRP = calcitonin gene-related peptide

Adapted from:
Diener HC et al. Lancet Neurol 2015; 14:1010-22
CGRP Target in Migraine: Monoclonal Antibodies

4 mABs are currently in development for migraine prevention: Eptinezumab / Erenumab / Fremanezumab / Galcaenzumab

All have CGRP targeted mABs were statistically superior to placebo in:
1. Primary endpoint:
   • Reducing monthly migraine days (MMD)

2. Secondary endpoints may include:
   • 50% responder rates
   • Disability
   • Change in moderate/severe headache days
   • Change in monthly cumulative hours of headache

mABs = monoclonal antibodies; CGRP = calcitonin gene-related peptide
CGRP Target in Migraine: Monoclonal Antibodies

All have shown:

• A quick onset with a meaningful clinical effect in the first month

• Short-term safety and tolerability comparable to placebo
  • Most common treatment-related adverse event was injection site reaction of mild to moderate severity with subcutaneous injections.

Adapted from:
CGRP mABs Significantly Decrease the Number of Migraine Days

Fremanezumab for prevention of episodic migraine:

Primary endpoint analysis (Weeks 9-12)

Baseline mean migraine days:
11.5 (placebo), 11.5 (225 mg), 11.3 (675 mg)

mABs = monoclonal antibodies; CGRP = calcitonin gene-related peptide
CGRP mABs Significantly Increase Responder Rates (short-term)

Galcanezumab for prevention of migraine: Responder rates at 12 weeks


*Exploratory post hoc analysis*
CGRP mABs Significantly Increase Responder Rates (long-term)

- Placebo: 26.6%
- Erenumab, 70 mg: 43.3% (odds ratio vs. placebo, 2.1)
- Erenumab, 140 mg: 50.0% (odds ratio vs. placebo, 2.8)

**Graph:**
- Y-axis: Percentage of patients with ≥50% reduction in migraine days per month
- X-axis: Months (1 to 6)
- Colors:
  - Grey: Placebo
  - Green: Erenumab, 70 mg
  - Dark Green: Erenumab, 140 mg

**Legend:**
- Percentage of patients with ≥50% reduction at months 4-6:
  - Placebo: 26.6%
  - Erenumab, 70 mg: 43.3% (odds ratio vs. placebo, 2.1)
  - Erenumab, 140 mg: 50.0% (odds ratio vs. placebo, 2.8)

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mABs = monoclonal antibodies; CGRP = calcitonin gene-related peptide

Adapted from: Goadsby PJ et al. NEJM. 2017;377:2123-32.
CGRP mABs Improved Impact of Migraine on QoL Measures (MPFID)

Change from baseline at month 6

Change in Mean Physical Impairment Score (N=955)

- Erenumab 70 mg: -4.2
- Erenumab 140 mg: -4.8
- Placebo: -2.4

Change in Impact on Everyday Activities Scores (N=955)

- Erenumab 70 mg: -5.5
- Erenumab 140 mg: -5.9
- Placebo: -3.3

Erenumab 70 mg and 140 mg reduced impact of migraine on QoL measures.

mABs = monoclonal antibodies; CGRP = calcitonin gene-related peptid; MPFID = Migraine Physical Function Impact Diary

Adapted from: Goadsby PJ et al. NEJM. 2017;377:2123-32.
CGRP mABs Improved Impact of Migraine on QoL Measures (HIT-6)

Change in HIT-6 scores for patients with chronic migraine achieving 75%, response rate following infusion of eptinezumab or placebo (N=616)

Average HIT-6 Scores for 75% Responders With Any Study Dose

- Baseline: -13.6
- Week 4: -12.3
- Week 12

mABs = monoclonal antibodies; CGRP = calcitonin gene-related peptide; HIT = Headache Impact Test

Adapted: Lipton R et al. AAN 2017. Abstract 165.
CGRP mABs Significantly Decreased Monthly Migraine Days in Chronic Migraine


mABs = monoclonal antibodies; CGRP = calcitonin gene-related peptide

CGRP mABs: Clinical Trial Results: Tolerability Summary

No clinically significant change seen in vitals or ECGs

No change in hepatic enzymes judged to be treatment related

AEs in similar proportion to placebo group

Most common AE was injection site reaction of mild to moderate severity for SC injections

No SAEs reported

Long term safety remains unknown (trials were usually 3 months duration), further study needed.
Polling Question

Do you talk to your patients about new medications that are coming to market?

1. Yes
2. No
3. It depends
Practical Tips: Guidance to discuss the new treatment with patients
Practical Guidance for Talking to Your Patients about New Medications

Discussion points with patients can include:

- Purpose of medication
- Treatment options
- How the medication works
- How the medication is administered
- Duration of therapy, reminder that this is a long-term disorder and the patient needs to be involved in their own management
- Goals of therapy
- How effectiveness will be monitored
- Adverse effects and how to deal with them - drug specific issues
New options are coming...

Sophie
Episodic Migraine

...providing hope for your patients like Sophie and Marie

Marie
Chronic Migraine
Key Points

- **Migraine greatly impacts** patients quality of life and impacts them personally and professionally.

- Current unmet needs remain in terms of **finding treatments that are effective, tolerable** and patients will continue to take.

- **CGRP monoclonal antibodies** were developed for **migraine-specific targets** and have demonstrated good efficacy in episodic and chronic migraine.
Key Points

• **Tolerability** data to date are promising, although long-term safety needs to be established.

• These **new treatment options** provide **hope** for **migraine patients** for whom current options are either ineffective or poorly tolerated.