

Chronic Cough: New Algorithms to deal with this common condition

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Disclosures

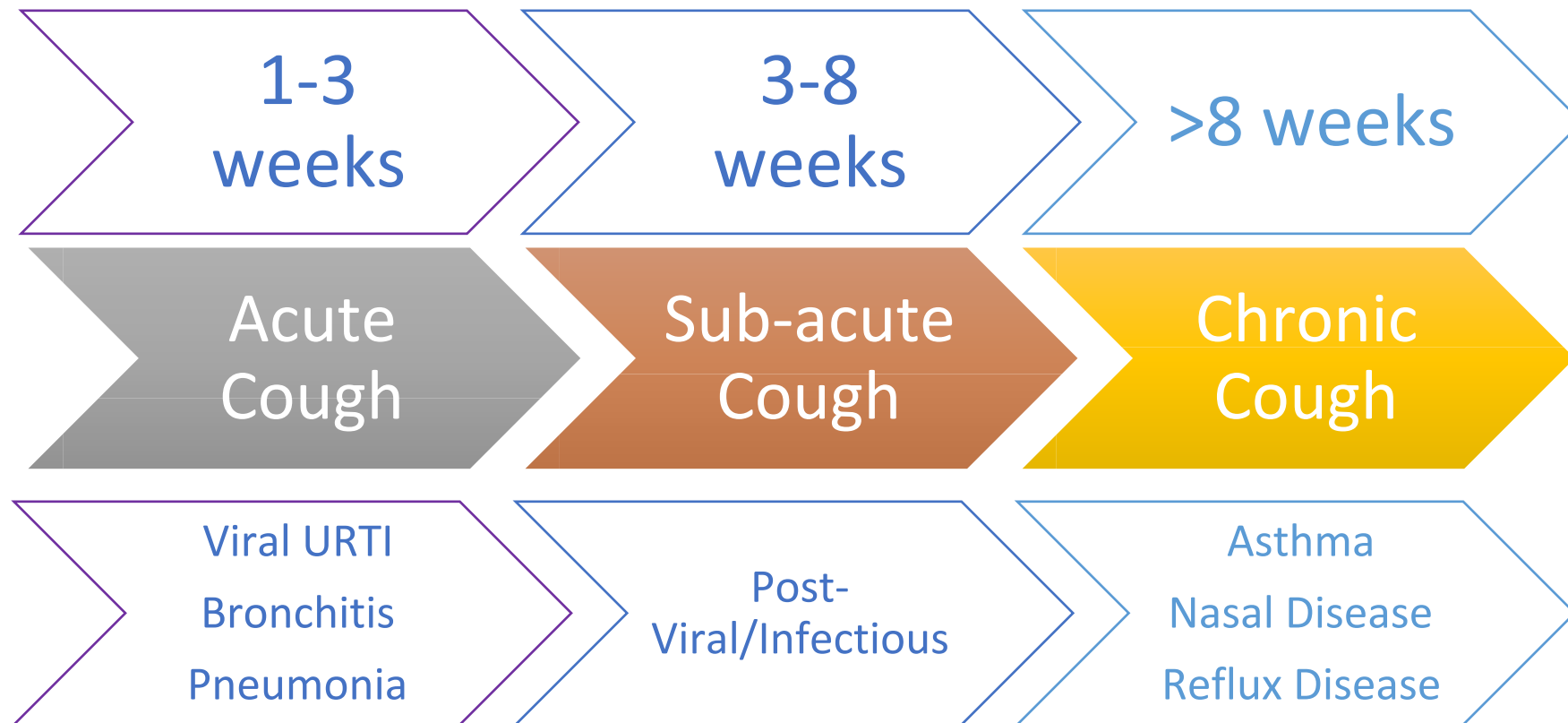
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Learning Objectives

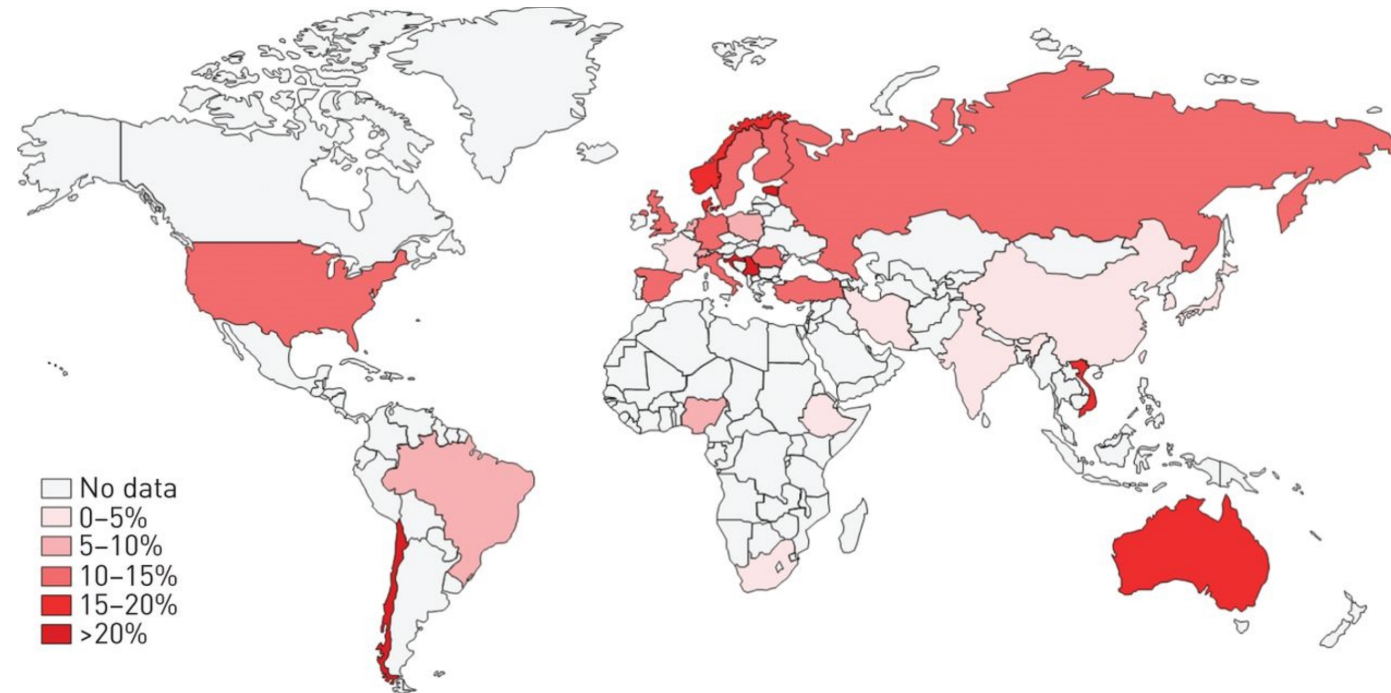
1. Epidemiology:
 1. What is Chronic cough?
 2. How common is it really?
 3. What are some of the risk factors to be aware of?
2. Describe current treatment options for chronic cough, refractory chronic cough, unexplained chronic cough
3. What ***might*** new algorithms in the future include?

What is chronic cough?

Classification of Cough



Chronic Cough is common global problem



1. 90 Studies selected: the majority of included studies utilized the 3-month **chronic bronchitis** cut-off duration.
2. Overall: 9.6%: Highly variable
 1. Australia 18.1%
 2. Europe 12.7%
 3. America 11.0%
 4. Asia 4.4%
 5. Africa 2.3%

Studies using 8 week definition:

UK: 12%

Finland: 7.2%

Germany: 5%

Copenhagen: 4%

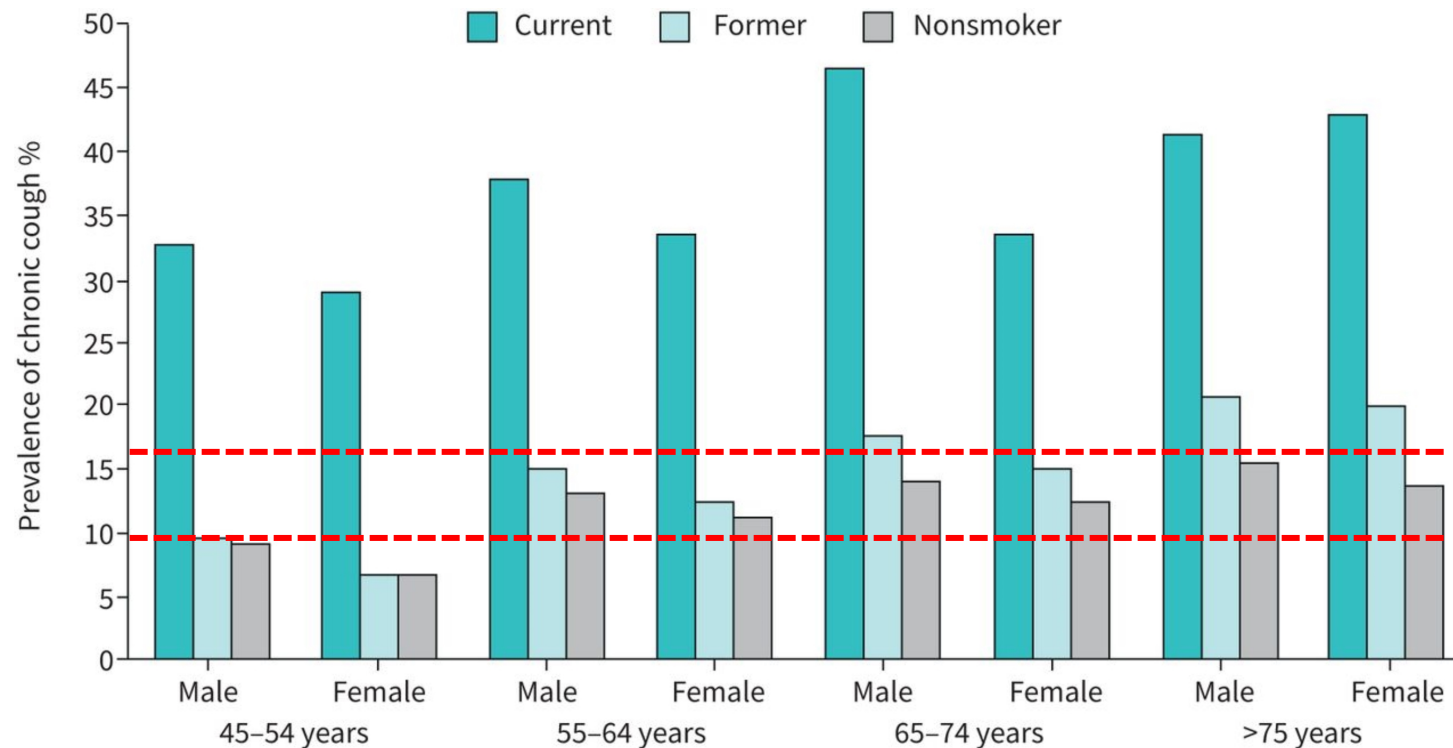
South Korea: 2.6%

Japan: 2.2%

Nigeria: 1.1%

High prevalence of chronic cough in the Canadian Longitudinal Study of Aging (CLSA)

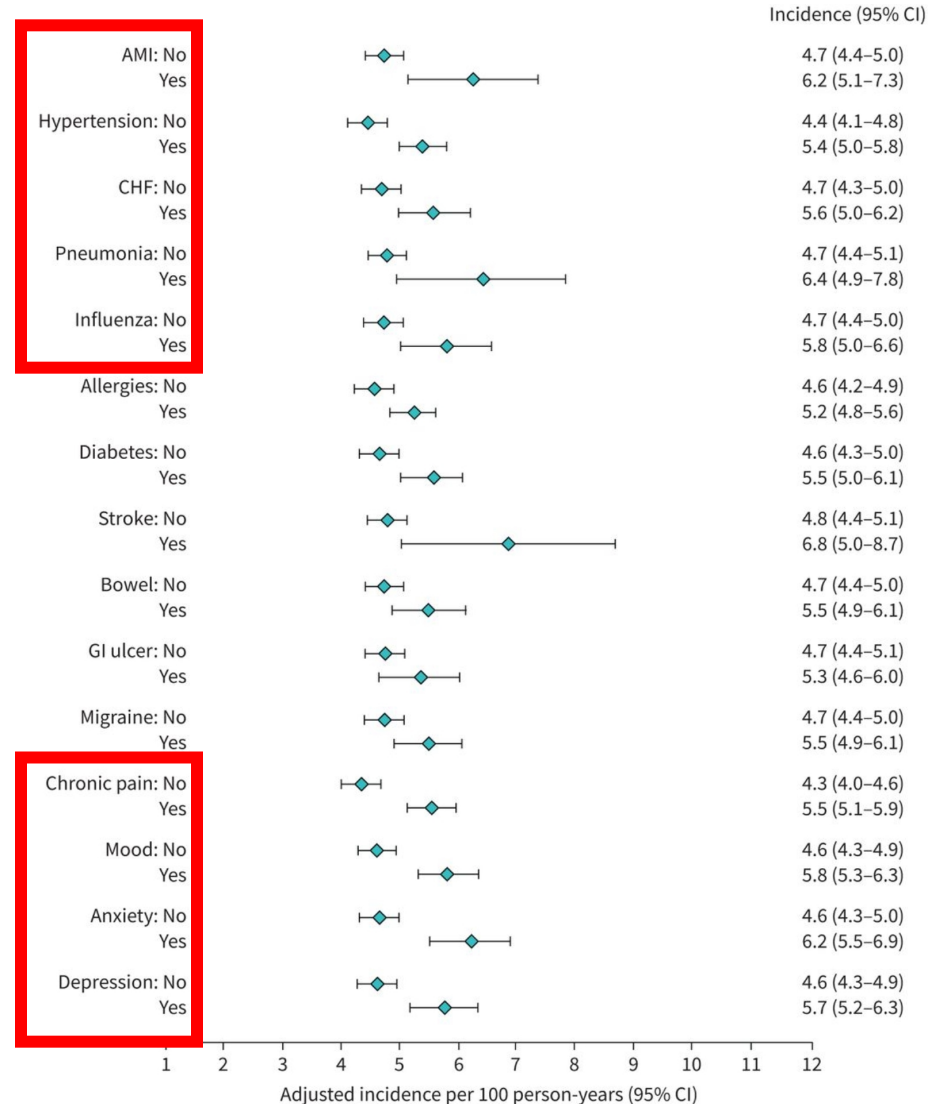
Overall Prevalence of 16% at baseline



Prevalence is lower in Quebec (10.4%) than in Ontario (15.8%)

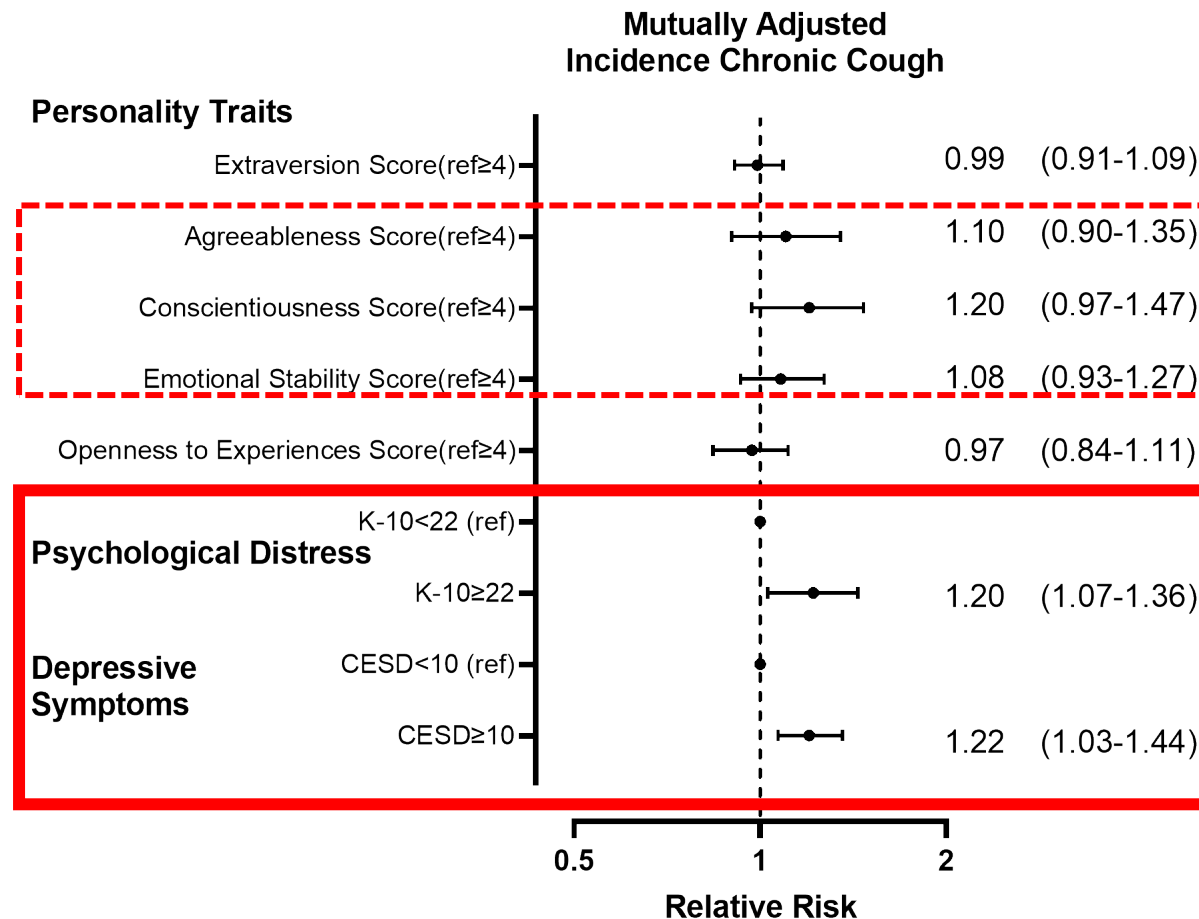
Incidence is lower in Quebec (8%) than in Ontario (12%)

Associated Co-Morbidities



Psychological Distress and Depressive Symptoms *but not* Personality Traits are risk factor

Figure 1

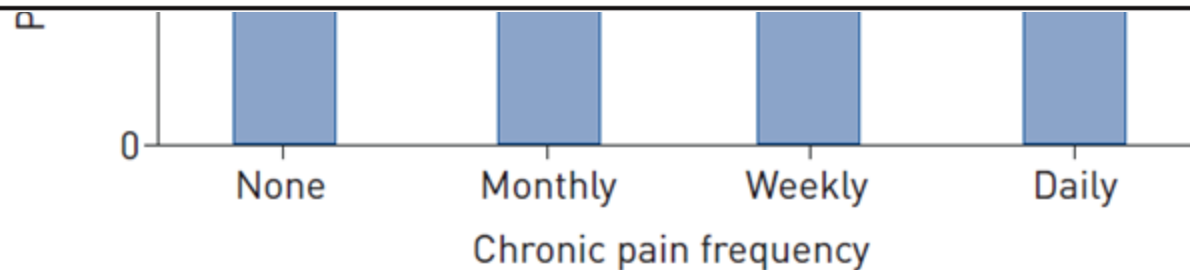


Chronic Cough and Chronic Pain also inter-related

TABLE 2 Chronic pain and risk of developing chronic cough (in all eligible participants)

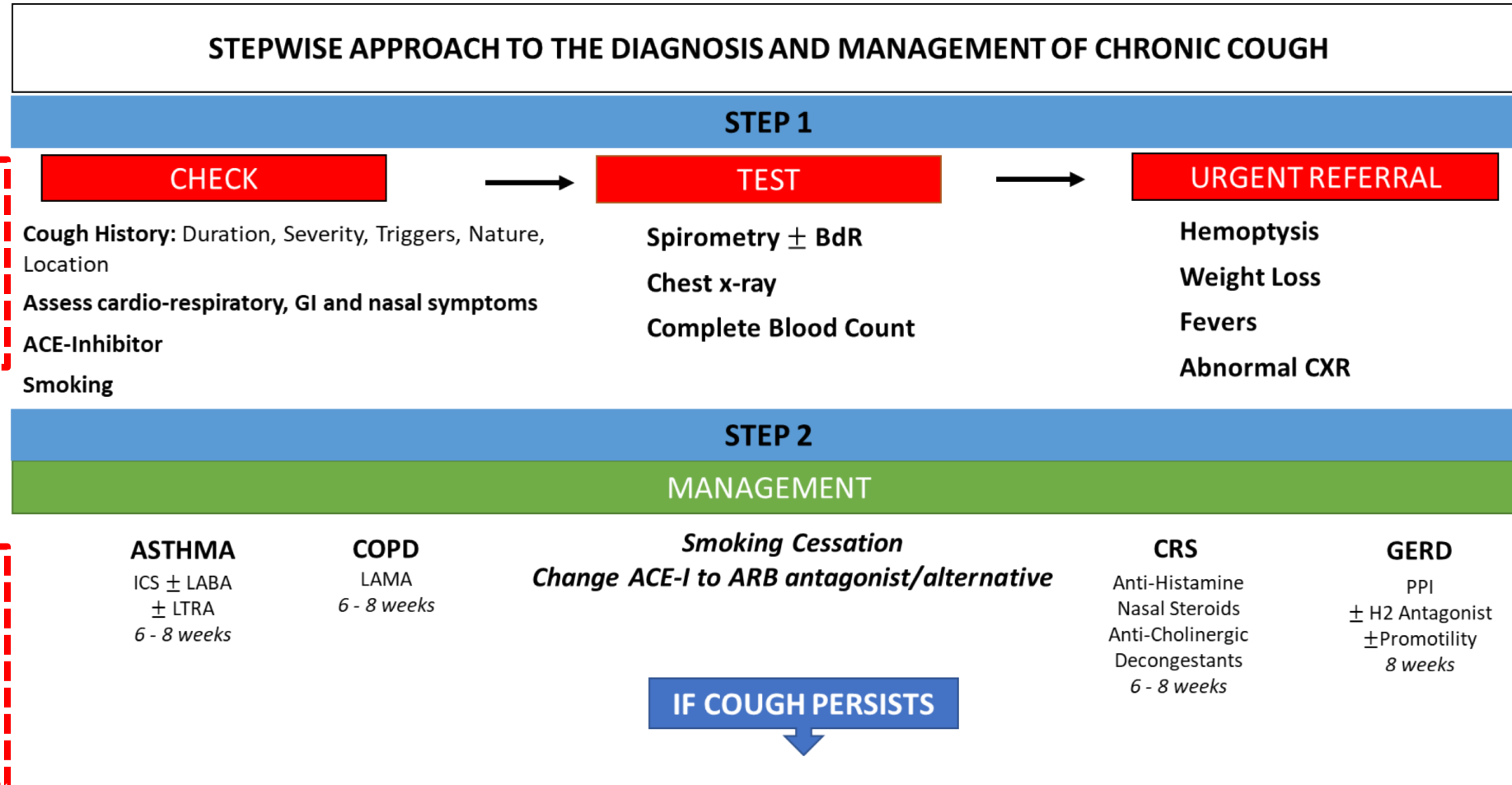
Chronic pain status	Total (n=2232)	Incident chronic cough (n=210)	OR (95% CI) [#]	OR (95% CI) [¶]	OR (95% CI) ⁺
No chronic pain	1116	83	Ref.	Ref.	Ref.
Chronic pain	1116	127	1.60 (1.20–2.14)	1.56 (1.16–2.10)	1.47 (1.08–1.99)
Weekly/monthly chronic pain	444	48	1.51 (1.04–2.19)	1.49 (1.03–2.17)	1.43 (0.98–2.10)
Daily chronic pain	672	79	1.66 (1.20–2.29)	1.61 (1.16–2.24)	1.49 (1.06–2.11)

Data are presented as n, unless otherwise stated. [#]: Crude estimate; [¶]: adjusted for age and sex; ⁺: adjusted for age, sex, body mass index, smoking, use of angiotensin-converting enzyme inhibitors, chronic rhinosinusitis, gastro-oesophageal reflux disease, asthma, chronic obstructive pulmonary disease, lung cancer, heart failure and Center for Epidemiologic Studies Depression Scale score ≥ 16 .



Current Management and Treatment Options

In Primary Care



PRIMARY CARE

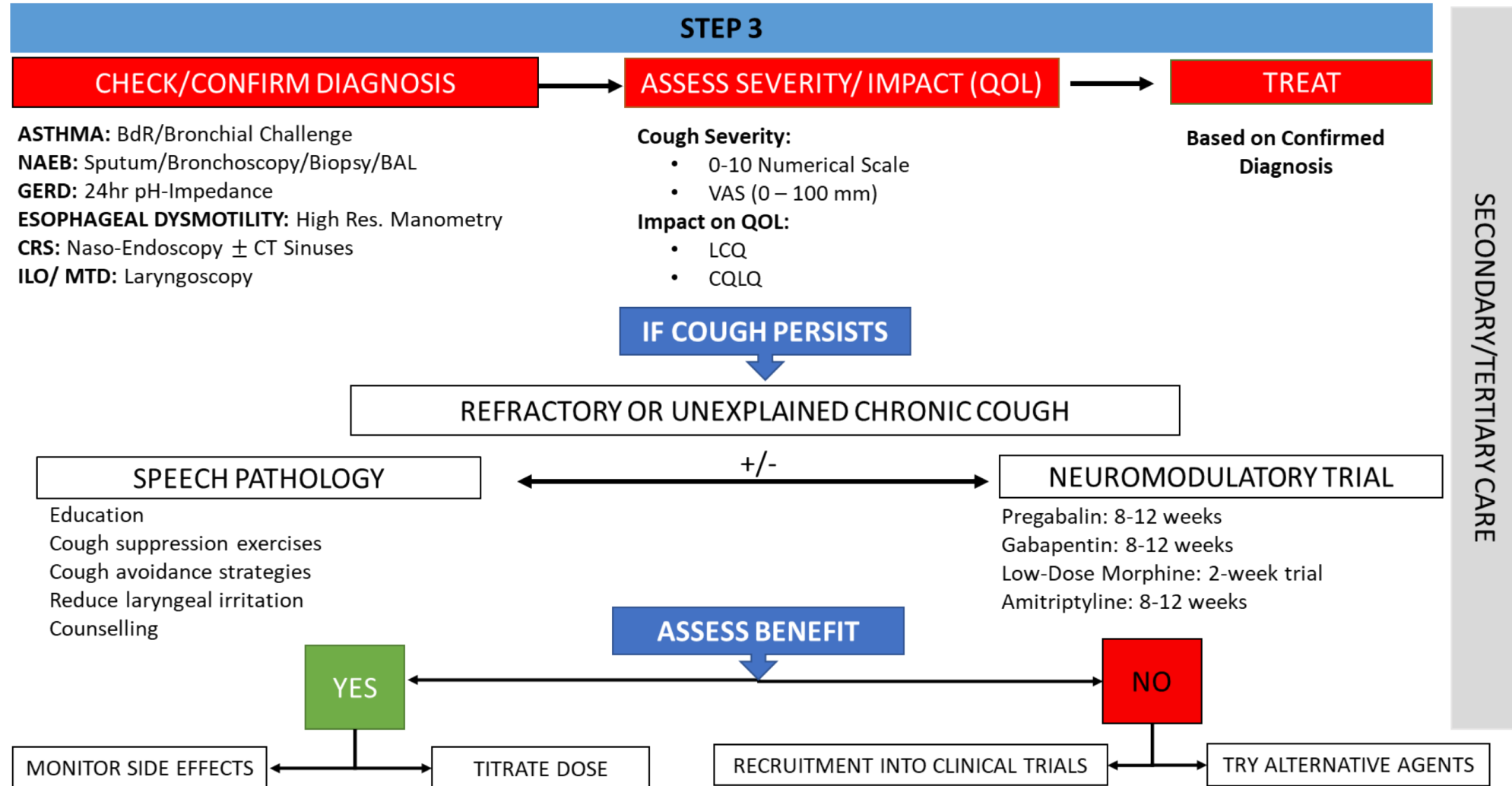
Abnormal CXR
 ILD
 Bronchiectasis
 TB
 Lung Cancer
 Heart Failure

CONSIDER
 Cough
 Hypersensitivity
 Syndrome earlier
 as a distinct
 condition

CONSIDER
 Dry or Productive
 Mental Health
 Chronic Pain
 Stroke
 Swallowing

DOCUMENT
 Impact on
 Quality of Life
 Work Life
 Social Life
 Family Life
 Cough Severity

In Specialist Care



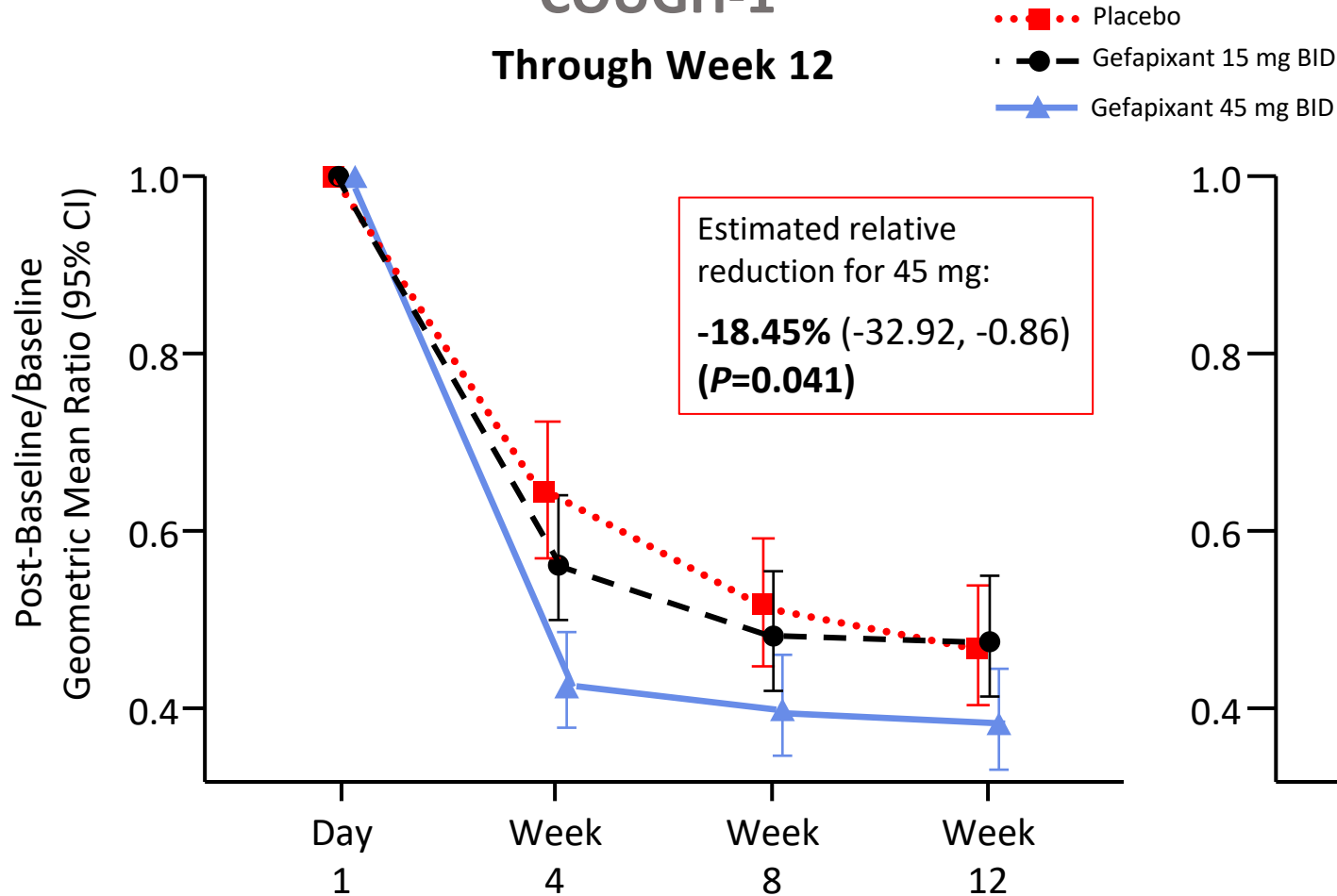
Treatment Options – Pros and Cons

Name/Dose	Mechanism	Pros	Cons
Speech Therapy	Teaches cough suppression, avoid triggers, laryngeal exercises , hydration	No side effects Patient led	Access, Cost, Requires patient motivation Limited subjective improvement beyond initial 3-4 month treatment period, operator dependent 1 study of 24-hr cough frequency (LCM)
Low-Dose Morphine 5-10mg M/R BID	mu-opioid receptors	Fast onset 1-2 week trial	Nausea, drowsiness, unsteadiness, stigma, constipation 1 RCT with subjective endpoint
Pregabalin max 150mg BID	$\alpha 2\delta$ -2 subunit of presynaptic voltage-gated calcium channels	BID Dosing Can start very low doses and titrate up	Drowsiness, hallucinations, suicidal ideation, weight gain, hair loss, difficult weaning off, 150mg BID rarely tolerated 1 RCT with SPT, no improvement on objective coughs
Gabapentin Max 600mgTID	$\alpha 2\delta$ -1 and $\alpha 2\delta$ -2 (low affinity)	TID Dosing Can start very low doses and titrate up	Unsteadiness, dry mouth, nausea, sleepiness 1 RCT with subjective endpoint Cough monitoring for 1-hour only
Amitriptyline 10mg -25mg OID	TCA, serotonin/noradrenaline re-uptake inhibitor	Might help depression, anxiety	Tremor, dry mouth, weight gain, 1 uncontrolled study with unvalidated subjective endpoint

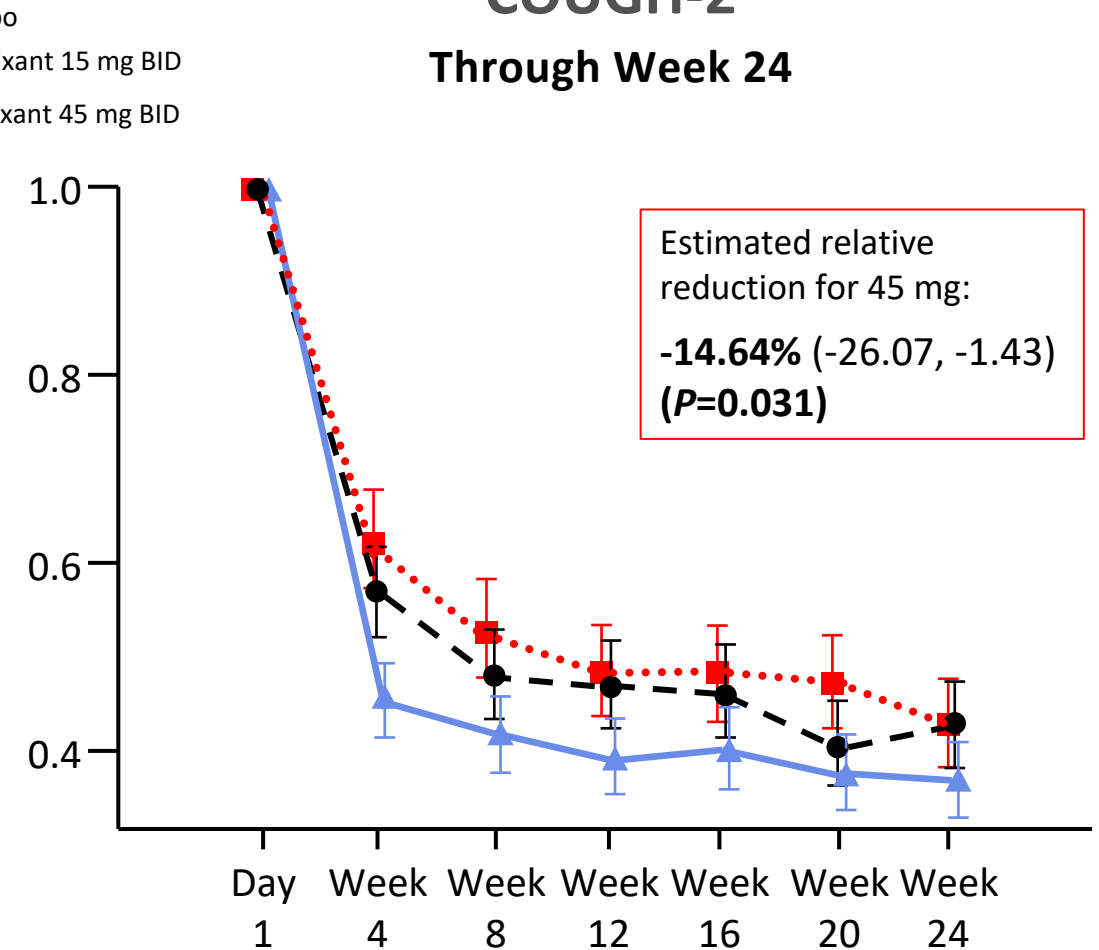
*What might new algorithms in the future
include?*

Gefapixant Phase III Trials: Primary Endpoints 24-Hour Cough Frequency

COUGH-1 Through Week 12



COUGH-2 Through Week 24



Currently approved in Switzerland/Japan only

Learning Objectives - Revisited

1. What is Chronic Cough?
 1. Cough > 8 weeks, F:M 2:1, 20 coughs/hr, significant burden on QoL
 2. Ageing, Smoking, Airflow Obstruction, Asthma, COPD, lower FEV1
 3. Mental Health Disorders, Chronic Pain associated with higher incidence
2. Describe current treatment options for chronic cough, refractory chronic cough, unexplained chronic cough
 1. Treat identifiable conditions
 2. Consider centrally acting neuromodulators/speech therapy
3. Novel treatments currently in development.
 1. P2X3 antagonist most likely going to be the next new treatment for refractory and unexplained chronic cough
 2. There are large placebo effects
 3. Taste disturbances will need to be closely monitored

Thank you to my mentors, collaborators and funding bodies:

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