# The IASP classification of chronic pain for ICD-11

Narrative Review

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# The IASP classification of chronic pain for *ICD-11*: chronic primary pain

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## Abstract

This article describes a proposal for the new diagnosis of chronic primary pain (CPP) in *ICD-11*. Chronic primary pain is chosen when pain has persisted for more than 3 months and is associated with significant emotional distress and/or functional disability, and the pain is not better accounted for by another condition. As with all pain, the article assumes a biopsychosocial framework for understanding CPP, which means all subtypes of the diagnosis are considered to be multifactorial in nature, with biological, psychological, and social factors contributing to each. Unlike the perspectives found in *DSM-5* and *ICD-10*, the diagnosis of CPP is considered to be appropriate independently of identified biological or psychological contributors, unless another diagnosis would better account for the presenting symptoms. Such other diagnoses are called "chronic secondary pain" where pain may at least initially be conceived as a symptom secondary to an underlying disease. The goal here is to create a classification that is useful in both primary care and specialized pain management settings for the development of individualized management plans, and to assist both clinicians and researchers by providing a more accurate description of each diagnostic category.

**Keywords:** *ICD-11*, Classification, Chronic pain, Chronic primary pain, CRPS, CWP, Fibromyalgia, Headache, Orofacial pain, Visceral pain, Musculoskeletal pain, Idiopathic pain, Functional pain

## 1. Background on chronic primary pain

There are 2 main diagnostic classification systems used internationally for chronic pain, apart from headaches: the *Diagnostic and Statistical Manual* (*DSM*) published by the American Psychiatric Association (APA), and the *International Classification of Diseases* (*ICD*) published by the World Health Organization (WHO). However, both have been found wanting in their accounts of chronic pain conditions. In particular, neither system reflects the developments in pain research over the last 2 decades, and they do not have clear treatment or management implications.[10,15,16,38,61] To illustrate, *ICD-10* refers to pain attributable exclusively to an underlying pathophysiological mechanism.[19] In the absence of a clear (pathophysiological) etiology, and when biological, psychological, and social factors seem to be contributing to a chronic pain presentation,[15] *ICD-10* offers only the option of "somatoform pain disorder." However, this classification cannot be used when pathophysiological factors are also considered to be contributing to the pain problem.[39]

These distinctions have important treatment implications. As Taylor and colleagues pointed out, if we accept that chronic pain is

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a disease or a long-term condition, "then the philosophy of care may change from a biomedical model that views chronic pain as a symptom to that of a biopsychosocial one that views chronic pain as a disease or long-term condition" (p. 1948).[53] In an attempt to address the problems with the representation of chronic pain in *ICD*, the German adaptation of *ICD-10* (*ICD-10-GM*) introduced the concept of "chronic pain disorder with somatic and psychological factors."[18] It was an important step to acknowledge equal contributions of somatic and psychological factors, and the concept seems well-accepted. However, not only is this diagnosis limited to German-language countries, it still rests in the psychiatric section of the classification. Conceptually and clinically, it seems overly broad: it can be applied to most chronic pain conditions and fails to recognize subtypes. In this article, the suggested concept of chronic primary pain (CPP) overcomes these limitations by providing a clear definition unencumbered by inappropriate classification within psychiatric disorders, and it allows for subtypes. The challenge to conceptualize chronic pain as a long-term condition has been accentuated by advances in the understanding of psychological, social, and central nervous system mechanisms that may account for many hitherto inexplicable pain phenomena.[37,51,60,61] These developments have meant that attempts to classify chronic pain presentations need to acknowledge the likelihood of multiple interacting contributors to a chronic pain presentation. The alternative of pain being either "somatic" or "psychogenic" has become obsolete in several ways. Psychological factors such as learning and coping play a role in chronic pain that was previously considered "somatic," eg, chronic osteoarthritis (now classified as one of the "chronic secondary pain syndromes"). Vice versa, biological changes are closely linked to psychological processes; this is most obvious in neurophysiological brain reactions contributing to changes in pain perception. As will become apparent, these developments are acknowledged by the new diagnostic entity of CPP. The new entity will also provide a framework to unite conditions that have hitherto been scattered throughout the *ICD* and help to focus on their commonalities and differences.

## 2. The need for a classification

To overcome the shortcomings identified in previous and current versions of both *DSM* and *ICD*, this article proposes for *ICD-11* the new diagnosis of CPP, which would be appropriate independently of identified biological or psychological contributors unless another diagnosis would better account for the presenting symptoms. The goal was to create a classification that will be useful in both primary care and in specialized pain management settings. It is also proposed that, as much as possible, the classification of pain conditions should be cast in "positive" terms, using "observable" concepts, and that diagnosis "by exclusion" should be avoided.[56]

## 3. The IASP task force *ICD* initiative

To remedy the lack of accurate classification of chronic pain in general and chronic pain where disease-oriented pain diagnoses are not appropriate, the International Association for the Study of Pain (IASP) established a Task Force that worked in close cooperation with WHO representatives in generating a systematic and improved classification of chronic pain.[56] The classification is dedicated exclusively to chronic pain syndromes and excludes acute pain. The Task Force subchapter on CPP was steered by the first 2 authors.

Chronic pain was defined as pain[23] that lasts or recurs for longer than 3 months.[55] This definition was chosen because it provides a clear operationalization that is in line with widely used criteria in other fields of medicine. A code for the severity of the chronic pain syndrome was added, which records the intensity of the pain, the emotional distress, and the interference in daily activities due to pain. To assist with the specification of the severity of the pain, the use of numerical rating scales categorizing its 3 dimensions is recommended.[55] Each dimension can be rated on a 0 to 10 scale (where 0 = nil and 10 = extreme), which can then be categorized to yield a code (0-3) for each dimension (where 0 = absent; 1-3/10 = 1 or mild; 4-6/10 = 2 or moderate; and 7-10/10 = 3 or severe). This will allow a case to be given a code of 0 to 3 for each dimension. The use of these codes is illustrated in the case vignettes 1-5 accompanying the text. *ICD-11* will be coordinated with the International Classification of Functioning, Disability and Health (ICF) that will provide additional features of activities and participation.[32]

The classification presented here is integrated with the "frozen version" of *ICD-11*, published by WHO on June 18, 2018. A previous version had undergone field testing by WHO for line coding and case coding in 2017, through the IASP website.

## 4. Classification of chronic primary pain

Many chronic pain conditions have an obscure etiology and pathophysiology, but they are characterized by a complex interplay of biological, psychological, and social factors.[15] Currently, these conditions are covered by labels such as chronic widespread pain (CWP), fibromyalgia, complex regional pain syndrome, type I (CRPS1), temporomandibular disorder (TMD), irritable bowel syndrome (IBS), and most back pain and neck pain conditions, which invariably include vague and ambiguous terms such as "nonspecific," "somatoform," or "functional." The term "chronic primary pain" was chosen after extensive consultation with the *ICD-11* revision committee and is expected to have widespread acceptability, especially from a nonspecialist perspective.

The definition of the new diagnosis of CPP is intended to be agnostic with regard to etiology; in particular, it aims to avoid the obsolete dichotomy of "physical" vs "psychological,"[28] as well as exclusionary terms that define something by what is absent, such as "nonspecific." The meaning of "functional" is also ambiguous. Some take it to mean "all in the mind" and others as a "disorder of function."[54]

The introduction of "chronic primary pain" eliminates this ambiguity. Chronic primary pain is defined as pain in one or more anatomical regions that

(1) persists or recurs for longer than 3 months
(2) is associated with significant emotional distress (eg, anxiety, anger, frustration, or depressed mood) and/or significant functional disability (interference in activities of daily life and participation in social roles),
(3) and the symptoms are not better accounted for by another diagnosis.

In other words, the experience of chronic pain should be sufficiently concerning for the person to seek help for it. As in all conditions, before a diagnosis is made, it has to be ascertained whether another diagnosis better accounts for the chronic pain presentation, in which case, the diagnoses are the chronic "secondary" pain syndromes described in the companion articles: chronic cancer pain,[4] chronic postsurgical or posttraumatic pain,[45] chronic neuropathic pain,[44] chronic

secondary headache or orofacial pain,[5] chronic secondary visceral pain,[2] and chronic secondary musculoskeletal pain.[35]

### 4.1. The general structure of the classification of chronic primary pain

Chronic primary pain can occur in any body system (eg, nervous, musculoskeletal, and gastrointestinal systems), and in any body site (face, low-back, neck, upper-limb, thorax, abdominal, pelvis, and urogenital region), or in a combination of body sites (eg, widespread pain). This is mirrored by the general structure of the classification. Subtypes of CPP are listed in **Figure 1**. A complete overview of all CPP conditions as implemented in the *ICD-11* foundation layer is provided in the supplementary material accompanying this article (available at http://links.lww.com/PAIN/A658).

In the "frozen linearization" of *ICD-11*, CPP receives the diagnostic code MG30.0. If, however, the subtype remains unclear, the code "chronic primary pain unspecified" (MG30.0Z) will be appropriate. We expect that the subtypes are more informative and will often be identified easily.

### 4.2. The diagnostic codes in the classification of chronic primary pain

All codes share the characteristics of CPP explained above. Specifically, it is chronic pain in one or more anatomical regions that persists or recurs for longer than 3 months and is associated with significant emotional distress and/or significant functional disability. The emotional distress can take many forms, such as demoralization, depressed mood, anxiety, anger, or frustration. Functional disability also covers a wide range of interference in daily life, such as difficulties working, sleeping, or taking part in

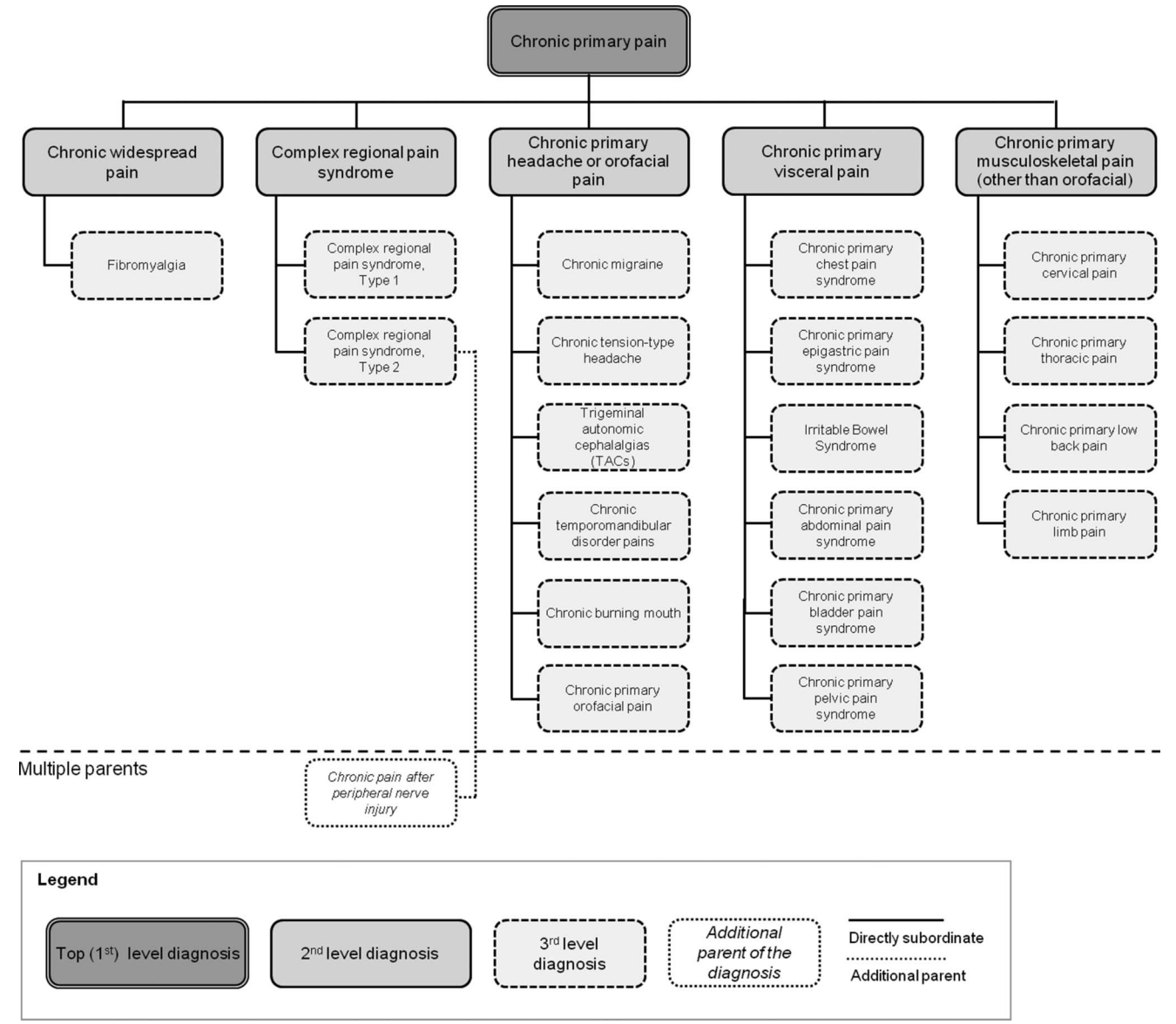


**Figure 1.** The general structure of the classification of chronic primary pain. Level 1 and 2 are part of the 2018 frozen version of *ICD-11*; level 3 has been entered into the foundation layer. According to the new concept of multiple parenting in *ICD-11*, an entity may belong to more than one group of diagnoses.

social activities. In addition to these common features, the individual types of CPP have unique characteristics that distinguish one particular diagnosis from another.

#### 4.2.1. Chronic widespread pain

Chronic widespread pain is diffuse musculoskeletal pain in at least 4 of 5 body regions and in at least 3 or more body quadrants (as defined by upper–lower/left–right side of the body) and axial skeleton (neck, back, chest, and abdomen).[9] Chronic widespread pain is characterized by the core features of CPP, such as pain persisting for at least 3 months, and associated with significant emotional distress and/or functional disability. The diagnosis is appropriate if the pain is not directly attributable to a nociceptive process in these regions, and if there are features consistent with nociplastic pain,[26] such as spontaneous or evoked pain in the affected regions, accompanied by allodynia and/or hyperalgesia and identified psychological and social contributors. Chronic widespread pain is often associated with increased medical comorbidity, including sleep disturbances, obesity, hypertension, and diabetes.[31]

##### 4.2.1.1. Fibromyalgia syndrome

Fibromyalgia syndrome (FMS) is a form of CWP, which is defined as pain in at least 4 of 5 body regions (in at least 3 or 4 body quadrants), and is associated with sleep disorders, cognitive dysfunction, and somatic symptoms. The symptoms have been present at a similar level for at least 3 months and are not better accounted for by another diagnosis. Definitions of FMS have been repeatedly revised since it was first recognized as a rheumatic disease by WHO in 1992. Some authorities prefer to reserve the term FMS for the more severe presentations of the spectrum encompassed in CWP/FMS, but this approach reflects a quantitative rather than a qualitative distinction that depends on criteria that have yet to be validated.[20,42] Case vignette 1 features a patient with FMS.

#### 4.2.2. Complex regional pain syndrome

Complex regional pain syndrome (CRPS) is a type of CPP characterized by pain in a regional distribution that usually starts distally in an extremity after trauma and that is disproportionate in magnitude or duration to the typical course (of pain) after similar tissue trauma.[6,8] The pain is spontaneous but can typically also be evoked. Complex regional pain syndrome is further characterized by signs indicating autonomic and inflammatory changes in the affected body region that may vary between patients and over time.[6] Patients can present with hyperalgesia, allodynia, skin color and temperature changes, sweating, edema, altered hair and nail growth, dystrophic skin, reduced strength, tremors and dystonia in the affected limb, and focal osteoporosis.[21] Some of these changes may be related to nociplastic mechanisms,[26] and they may change over time. At a late stage, some patients present with muscle atrophy, and joint and tendon retraction (see case vignette 2). Two subtypes of CRPS have been delineated: type 1 and type 2. Both can occur after trauma, but in CRPS type 1, there is no peripheral nerve injury, while evidence of peripheral nerve injury is required for CRPS type 2.[49] Although neuropathic mechanisms are commonly believed to be associated with CRPS type 2,[45] and nociplastic mechanisms are believed to be associated with CRPS type 1,[26] recent studies have cast doubt on the degree of difference between the 2 types of CRPS once established.[33] The definition of CRPS is also part of the *ICD-11* chapter on disorders of the autonomic nervous system and cross-linked to CPP.

#### 4.2.3. Chronic primary headache or orofacial pain

Chronic primary headache or orofacial pain is defined as headache or orofacial pain that occurs on at least 15 days per month for longer than 3 months. The duration of pain per day is at least 2 hours[5] (untreated), or several shorter attacks per day may occur.[34,43] Other chronic headache or orofacial pain diagnoses to be considered are listed under chronic secondary headache or orofacial pain. For most purposes, patients receive a diagnosis according to the phenotypes of headache or orofacial pain with which they currently present or with which they have presented within the last year. Each distinct type, subtype or subform of headache or orofacial pain within one patient must be separately diagnosed and coded. When a patient receives more than one diagnosis, these should be listed in the order of importance to the patient.[17,22,46] There are several subtypes of chronic primary headache or orofacial pain.

##### 4.2.3.1. Chronic migraine

Chronic migraine is defined as headache occurring on 15 or more days/month for more than 3 months, which, on at least 8 days/month, has the features of migraine headache. Migraine is a recurrent headache disorder manifesting in attacks lasting 4 to 72 hours. Typical characteristics of the headache are unilateral location, pulsating quality, moderate or severe intensity, aggravation by routine physical activity, and an association with nausea and/or photophobia and phonophobia.[17,22,46]

##### 4.2.3.2. Chronic tension-type headache

Chronic tension-type headache is a frequent episodic headache, which occurs for at least 2 hours per day on 15 or more days per month for more than 3 months. Typically, they are bilateral, pressing, or tightening in quality and of mild to moderate intensity,

***Case vignette 1. Fibromyalgia***

A 35-year-old woman reports persisting pain in multiple sites, including her shoulders, lower back, upper, and lower limbs. The pain developed gradually about 2 years ago without any obvious causal event. Her hands sometimes feel tight, but she has not noticed any swelling. The pain is present most of the time but varies in severity, and some days are worse than others, especially after a day at work. She reports having trouble concentrating, and this, combined with feeling generally fatigued, is affecting the quality of her work. Because of her pain, she has not been able to perform her duties at work as a hair dresser to the same degree and fears losing her job. Her sleep is often interrupted by her pain, and she usually wakes up unrefreshed. She also reports sweating at night and occasionally feels a tingling sensation in her limbs. At times, she feels dizzy, and she wonders whether this could be caused by her low blood pressure, which is being treated by her doctor. She has no rashes, weight loss, nor cough. She feels that she lacks the energy to do the simplest task at home, and when she pushes herself to do things, her pain usually gets worse that evening and into the next day, to which she responds by resting more. She feels depressed most days and wishes that she could sleep all the time. She reports she is struggling to care for her 2 small children, and she feels guilty about this. She is also more reliant on her husband to help with the chores at home. Her severity code is 333, with pain intensity estimated at 7/10 (code = 3, severe); pain-related distress at 8/10 (code = 3, severe); and pain-related disability at 7/10 (code = 3, severe).

***Case vignette 2. Complex Regional Pain Syndrome type 1***

A 45-year-old married woman reports persisting pain in her lower right leg and foot since an ankle sprain 6 years ago. Examination by an orthopedic surgeon indicated that surgery was not required, and a conservative rehabilitation approach was recommended instead. She started to use crutches and avoided touching the ground with her right foot when walking. She also noticed swelling in her foot and reported it often felt hot and sweaty. Her husband also noticed the swelling and the temperature changes. When sitting, she usually places her leg horizontally to prevent edema. A combination of severe pain, inability to wear socks/shoes on the affected foot due to heightened sensitivity to pressure, and difficulties in walking and standing made it impossible to keep her job in a grocery store. She has been unable to work for over 5 years. Three years ago, she spontaneously developed unpleasant sensations in her (nondominant) left arm, and these have persisted on and off ever since. She relates these to her use of the crutches, and her physical therapist recommended she use a brace and avoid heavy lifting with that arm. Since then, she has used a wheelchair for longer distances outside her home. Over the years, she has used a range of medications for her pain, TENS, as well as nerve blocks and intravenous medication. None of these have helped so far and her pain and other symptoms persist. She is very concerned about her future, but feels hopeful that the pain clinic could help. Her severity code is 323, with pain intensity estimated at 7/10 (code = 3, severe); pain-related distress at 6/10 (code = 2, moderate); and pain-related disability at 8/10 (code = 3, severe).

lasting hours to days, but can be unremitting. The pain does not worsen with routine physical activity but may be associated with mild nausea, photophobia, or phonophobia.[17,22,46]

#### *4.2.3.3. Trigeminal autonomic cephalalgias*

Trigeminal autonomic cephalalgias (TACs) share the clinical features of unilateral headache and, usually, prominent cranial parasympathetic autonomic features (eg, lacrimation, rhinorrhoea, nasal congestion, and eyelid oedema), which are ipsilateral to the headache. Diagnostic labels commonly used for TACs include cluster headache, paroxysmal hemicrania, short-lasting unilateral neuralgiform headache attacks, and hemicrania continua. These are considered chronic TACs if the TAC attacks persist for 1 year or longer without remission, or with remission periods lasting less than 3 months.[17,22,46]

#### *4.2.3.4. Chronic temporomandibular disorder*

Chronic TMD pain is one of the most common chronic facial pain syndromes and includes pain affecting the temporomandibular joints (TMJ) and masticatory muscles and associated tissues. Temporomandibular disorder is defined as chronic orofacial pain that occurs for at least 2 hours per day on at least 50% of the days over at least 3 months. There are at least 2 distinct phenotypes: pain in the masticatory muscles termed myofascial TMD pain, and pain in the TMJ or associated tissues termed TMJ arthralgia (see case vignette 3). There are also forms of chronic secondary TMD.[5]

#### *4.2.3.5. Chronic burning mouth pain*

Chronic burning mouth pain is chronic orofacial pain characterized by intraoral burning or dysesthetic sensation that recurs for more than 2 hours per day on 50% of the days over more than 3 months, without evident causative lesions on clinical investigation and examination. Chronic primary burning mouth pain should be distinguished from secondary burning mouth syndrome attributed to diagnoses such as candidiasis or vitamin B12 deficiency. Two separate phenotypes have been described: with and without somatosensory disturbances.[17,22,46]

#### *4.2.3.6. Chronic primary orofacial pain*

Chronic primary orofacial pain is chronic pain in the mouth and face area that is associated with significant emotional distress and/or functional disability that is not better accounted for by other diagnoses of chronic primary or chronic secondary orofacial pain.[5]

### *4.2.4. Chronic primary visceral pain*

Chronic primary visceral pain is CPP localized in the head or neck, thoracic, abdominal, or pelvic region. Of note, it represents one of the major categories of internal medicine. The respective anatomical location is compatible with typical referral pain patterns from specific internal organs. Chronic primary visceral pain includes pain in the head/neck viscera of the digestive system; in the thoracic region (eg, noncardiac chest pain and reflux hypersensitivity); in the abdominal region arising from viscera of the digestive system (eg, epigastric pain syndrome, IBS, centrally mediated abdominal pain syndrome, and biliary dyskinesia) and in the pelvic region due to involvement of the viscera of the digestive, urinary, and genital systems (eg, bladder pain syndrome, anal spasm, chronic pelvic pain, and chronic testicular pain).[3,13,24,25,27,50,58] Several diagnoses that before this new classification were termed "functional" are to be subsumed under chronic primary visceral pain and have been renamed.[54] There are several subtypes of chronic primary visceral pain. These are described next.

#### *4.2.4.1. Chronic primary chest pain syndrome*

Chronic primary chest pain syndrome is recurrent primary retrosternal pain. Its anatomical location is compatible with typical referral pain patterns from esophageal origin. The pain must be present for 3 months with a symptom onset at least 6 months before the diagnosis with a frequency of at least once a week. Other esophageal symptoms such as heartburn and dysphagia must be absent. The symptoms are not better

***Case vignette 3. Chronic temporomandibular disorder pain***

This 24-year-old male reports a history of over 2 years of persisting bilateral jaw pain, often associated with the sound of clicking in the jaws when eating and restricted ability to fully open his mouth. The pain varies in intensity and is usually aggravated by chewing when he describes it as a sharp pain. As a result, he has become socially withdrawn to avoid aggravating his pain when out at restaurants with friends. He is increasingly concerned about the pain and its impact on his life. He still works in an office full-time, but says the pain can affect his concentration at times. He describes the pain as like a deep ache and locates it in the general area of the masseter muscles and extending towards the temporalis muscles on both sides. Palpation of the jaw muscles aggravates his pain. Dental examination reveals no major problems, but there is evidence of poor oral health due to restricted ability to clean his teeth (due to the limitations in mouth opening). His dentist has tried to get him to use an oral splint at night, but he finds this uncomfortable and not helpful. A combination of ibuprofen and benzodiazepine has also been tried, but with limited effect, and the patient is concerned about their long-term use. A trial with a tricyclic antidepressant (25 mg) helped his sleep, but the side effect of a dry mouth was uncomfortable, and he ceased this agent as a result. His severity code is 221 with pain intensity estimated at 5/10 (code = 2, moderate); pain-related distress at 6/10 (code = 2, moderate); and pain-related disability at 3/10 (code = 1, mild).

accounted for by reflux disease, other mucosal (eg, eosinophilia esophagitis) or motor processes (eg, achalasia, Jack Hammer esophagus, and diffuse esophageal spasm), cardiac causes, heartburn, dysphagia, or a diagnosis of chronic secondary visceral pain.[1] The pain is perceived in the somatic tissues of the chest wall (skin, subcutis, and muscle) in areas that receive the same sensory innervation as the esophagus (referred visceral pain) and can sometimes radiate to the arm and jaw much like angina. In these areas, secondary hyperalgesia (increased sensitivity to noxious stimuli in areas other than the primary site of the nociceptive input) may occur (see case vignette 4 for an illustration of the diagnosis).[41,59] The term "noncardiac" chest pain has been used to explain the symptoms,[14] but this is inappropriate as it is describing the pain by an absence.

#### *4.2.4.2. Chronic primary epigastric pain syndrome*

Chronic primary epigastric pain syndrome is CPP localized in the epigastric region. The distinct anatomical location is compatible with typical referral pain patterns from specific internal organs. Consistent with the ROME IV criteria, it is characterized by epigastric pain or burning that does not occur exclusively after meals, but can occur even during fasting, or even be improved after a meal. It may overlap with postprandial distress syndrome, which is associated with meal-induced dyspeptic symptoms.[48] Bothersome epigastric pain and/or burning that is severe enough to impact on usual activities must be present for at least 1 day per week over the last 3 months with symptom onset at least 6 months before diagnosis. The pain may be perceived in the somatic tissues of the abdominal wall (skin, subcutis, and muscle) in areas that receive the same sensory innervation as the small or large bowel (referred visceral pain). As with other CPP diagnoses, the diagnosis of chronic primary epigastric pain syndrome should be used unless another diagnosis would better account for the presenting symptoms and findings from investigations such as upper gastrointestinal endoscopy.[11,48] Postprandial epigastric bloating, belching, and nausea can also be present, but pain from biliary causes should be excluded. Presence of persistent vomiting should prompt the search for another disorder. Other digestive symptoms such as from gastroesophageal reflux disease and IBS may coexist with chronic primary epigastric pain.

#### *4.2.4.3. Irritable bowel syndrome*

Irritable bowel syndrome is one of the most frequent chronic primary abdominal pain conditions. Irritable bowel syndrome is a bowel disorder in which recurrent abdominal pain occurs on average for at least 1 day/week in the last 3 months and is associated with 2 or more of the following: (1) related to defecation; (2) associated with change in frequency of stool; and (3) associated with a change in form (appearance) of stool. Criteria should be fulfilled for the last 3 months with symptom onset 6 months before diagnosis. Irritable bowel syndrome subtypes may include IBS with predominant constipation or diarrhea; IBS with mixed bowel habits; and IBS unspecified.[29]

#### *4.2.4.4. Chronic primary abdominal pain syndrome*

Chronic primary abdominal pain is CPP localized in the abdominal region and associated with significant emotional distress and/or functional disability. The pain is usually continuous with no or only occasional associations with physiological events (eg, eating, defecation, or menses). Its anatomical location is compatible with typical referral pain patterns from specific internal organs, but the symptoms are not better accounted for by a diagnosis of chronic secondary abdominal pain. Chronic primary abdominal pain disorders may be associated with pathologies that have arisen secondary to changes in the control mechanisms of an organ or system and may be associated with neurobiological, physiological, and sometimes anatomical changes in the central nervous system.[2,7,11,30,48]

#### *4.2.4.5. Chronic primary bladder pain syndrome*

Chronic primary bladder pain syndrome is CPP perceived in the region of the urinary bladder that is also associated with at least one other symptom, such as worsening of the pain upon bladder filling and urinary frequency during day time and/or night time. The symptoms are not better accounted for by infection or any diagnosis of chronic secondary visceral pain. The presence of sexual dysfunction or dysfunction of the lower urinary tract should be considered.[2,12] Specific types of inflammation may be present in subsets of patients and need to be excluded. Other terms previously used include "interstitial cystitis," "painful bladder syndrome," and "PBS/IC" or "BPS/IC," but these are no longer recommended.[2,12]

#### *4.2.4.6. Chronic primary pelvic pain syndrome*

Chronic primary pelvic pain syndrome is CPP localized in the pelvic region. The anatomical location is compatible with typical referral pain patterns from specific internal organs of the pelvic area. The symptoms are not better accounted for by one of the other possible chronic secondary visceral pelvic pain diagnoses: chronic visceral pelvic pain from persistent inflammation, chronic visceral pelvic pain from vascular mechanisms, and chronic visceral pelvic pain from mechanical factors. Chronic primary pelvic pain includes pain in the pelvic region of the digestive and urogenital systems.[3,24,36,50,58]

***Case vignette 4. Chronic primary chest pain syndrome***

This 38-year-old man, working as a carpenter, is referred by his cardiologist for noncardiac chest pain. The patient has a high body mass index and reports that over the past 7 months, he has experienced a combination of chest pain and pressure while at rest several times per week. His chest pain is associated with shortness of breath. He reports that severe pain often wakes him at night, and he reports feeling very anxious and even on the verge of panic at these times, making it hard to return to sleep. As a result of increased fatigue and anxiety, he has been on sick leave for the last 3 months, but the rest does not seem to be helping. Over the past 2 years, he has reported experiencing occasional heartburn and regurgitation, usually after eating a large meal. During one severe episode of chest pain, the patient presented to the emergency department at his local hospital worrying that he was having a heart attack. Investigations at the hospital, including electrocardiography, and an exercise test revealed no abnormalities. The patient was started on proton pump inhibitor (PPI) medication twice per day for 3 months to reduce the amount of acid in his stomach. After a few days, his chest pain and heartburn largely resolved. He also undertook a supervised exercise program, a change of diet, and a general activity upgrading program. His weight is coming down gradually, and he was able to cease the PPI without recurrence of chest pain. His severity code was 232, with pain intensity estimated at 6/10 (code = 2, moderate); pain-related distress at 8/10 (code = 3, severe); and pain-related disability at 6/10 (code = 2, moderate).

***Case vignette 5. Chronic primary low-back pain***

A 26-year-old woman reported persisting low-back pain since a fall from a short ladder at work 9 months ago. Initial radiography showed no abnormalities, although a CT scan subsequently revealed moderate posterior disc bulging at L4/5, but no apparent compression of neural structures. Neurological examination failed to show any neurological abnormality. Heat treatment and manipulation over several months, and a combination of compound analgesics and anti-inflammatory medication has provided only brief relief of the pain. The pain is almost constantly present, pinching in nature, fluctuating in severity. The pain is aggravated by physical activity and reduced by resting. She has been off work since her accident and is unable to perform most normal household chores. Her mood is depressed and associated with feelings of uselessness and frustration. The pain disturbs her sleep at night. The patient walks with her shoulders stooped, and she is unable to touch her toes. She reports tenderness in her lumbar spine (L3/4). All back movements, rotation, and flexion/extension seem reduced and are accompanied by grimaces and reports of increased pain. There is no evidence of muscle wasting, and no sensory loss is detected. Her severity code is 333, with pain intensity estimated at 7/10 (code = 3, severe); pain-related distress at 8/10 (code = 3, severe); and pain-related disability at 7/10 (code = 3, severe).

#### *4.2.5. Chronic primary musculoskeletal pain (other than orofacial).*

Chronic primary musculoskeletal pain is CPP located in the muscles, bones, joints, or tendons. A typical example is chronic primary low-back pain (see case vignette 5). Chronic primary musculoskeletal pain syndromes are distinguished according to location: upper (chronic primary cervical pain), middle (chronic primary thoracic pain), lower back (chronic primary low-back pain), and limbs (chronic primary limb pain). Patients may present with spontaneous or evoked pain in the affected region, accompanied by allodynia and/or hyperalgesia. Here, the conditions that were formerly named "nonspecific" musculoskeletal pain are classified.

## 5. Discussion

Chronic primary pain is a new diagnosis in the *ICD-11* classification for chronic pain that is intended to embrace a number of poorly understood conditions while avoiding obscure and potentially laden terms such as "somatoform," "nonspecific," or "functional." Chronic primary pain syndromes can be conceived as health conditions in their own right, whereas in the other 6 groups of chronic pain conditions (chronic secondary pain syndromes), pain may be considered a symptom of some other underlying diseases.[55] The distinction between "primary" and "secondary" has been transferred from the International Headache Classification.[22] It avoids designating the basis of the pain as "psychological" or "organic" because chronic pain necessarily includes psychological and social dimensions in addition to the biological components.[60]

Recently, in addition to nociceptive and neuropathic mechanisms, the concept of "nociplastic" was introduced as a third neurophysiological mechanism underpinning some chronic pain conditions.[26] It has been suggested that it may be particularly applicable to CPP. However, at this stage, the relationship of nociplastic pain mechanisms and chronic primary or secondary pain syndromes cannot be determined. Further development of the application of this new descriptor is in progress. However, it should be noted that it does require clinical and psychophysical findings suggestive of altered nociceptive function, and that it does not apply to patients reporting pain without hypersensitivity.

Like the other diagnoses proposed for *ICD-11*, CPP can be combined with optional specifiers, such as the presence of psychological and social factors and pain severity (combined ratings for pain intensity, distress, and disability). The severity ratings can be coded, and it is hoped that their dimensional nature will facilitate not only clinical communication but also interpretation of research findings. By means of these specifiers, clinicians and researchers will be able to determine whether their samples are similar to those participating in other studies that use these codes. For example, instead of describing a sample of patients as having low-back pain, researchers using *ICD-11* will also be able to distinguish levels of severity (mild, moderate, and severe) that help guide treatment (or no treatment). These codes also provide clinicians in both primary care and more specialized facilities with a simple means for evaluating changes over time in their chronic pain patients.[47]

Naturally, the new classification of chronic pain will have to be shown to be reliable and clinically useful. The next step in the development of *ICD-11* will be to encourage field trials to establish the psychometric properties of these codes and their utility. A pilot field trial in 4 countries yielded CPP and chronic secondary musculoskeletal pain as the 2 most frequent diagnostic groups, which were clearly distinguishable by both pain specialists and primary care physicians. Because the categories are more descriptive than former distinctions between "psychological and somatic" pain conditions, we expect that future evaluations will confirm higher retest reliability and inter-rater reliability compared with the previous approaches of classification.

The proposal in this article is that all chronic pain diagnoses should be presented in *ICD-11* as a coherent category of diagnoses and not be divided up artificially as is the case in *ICD-10*. This confers a number of advantages, including when the categories are used for the worldwide collection of data for health statistics. For these statistics, different levels of granularity can be chosen. Chronic pain may be divided into primary vs 6 subtypes of secondary pain syndromes (level 1 in **Fig. 1**), or any of these top level chronic pain diagnoses is subdivided into one of their level 2 diagnoses (**Fig. 1** here and in companion articles). The World Health Organization plans for member states to report their health statistic from 2022 onwards using level 1 and 2. We expect that this will be a useful level of aggregation, in that it provides a category for pain conditions that have hitherto been counted in less useful ways by being dispersed throughout the *ICD*. This represents chronic pain in health statistics, which influence health policies and allocation of resources for prevention, treatment, and rehabilitation as well as research.

The new *ICD-11* CPP classification is also expected to enhance pain management outcomes, in that it allows for inferences about unknown aspects of an individual who has been assigned a specific pain category.[40] Indeed, given a pain (sub)category, clinicians and researchers can infer likely causes of symptoms, predict most likely consequences, estimate a timeline, the most likely future developments, and optimize treatment plans for that person. In the case of CPP, in particular, the identification of physiological, psychological, and social contributors to pain is specifically encouraged, and this opens the way

for multimodal interventions that can address these factors and potentially enhance treatment outcomes. The German experience with the national variant code F45.41 (chronic pain with somatic and psychological factors) suggests that few large chronic pain diagnoses are more useful to guide treatment and its funding than the numerous more specific ones scattered throughout *ICD-10*.[39]

Multimodal pain management is regarded as the most helpful treatment form for chronic pain. How many "variants" of multimodal pain management will be needed in the future is an important research issue. It applies to both primary and secondary pain syndromes. It is expected that the diagnoses of the new classification may be helpful in performing this research program by offering a more helpful grouping of the diagnoses. On the other hand, it should be recognized that any categorization may introduce an assimilation bias[52,62] that may draw attention away from idiosyncratic features of the individual that may be important for an adequate personalized pain medicine. *ICD-11* users should be aware of this potential bias to limit its impact.

## 6. Summary and conclusion

By including a distinct CPP syndrome classification within the *ICD-11*, it is hoped to avoid the problems associated with previous classifications of chronic pain when the etiology is unclear, but the emotional distress and functional disability associated with such pain are very evident, as the Global Burden of Disease project has reported.[57] The availability of 6 classes of chronic secondary pain syndromes in the same classification will facilitate the distinction of pain as a disease or long-term condition from pain as a symptom,[53] as already demonstrated in a pilot field trial. This classification has clear treatment and management implications: a multimodal approach that addresses the contributing psychological, social, and biological contributors is expected to lead to better outcomes for patients with CPP diagnoses of at least moderate severity, relative to unimodal interventions alone. In chronic secondary pain syndromes, there will be additional disease-specific treatment options to be considered as well. In addition, the representation of CPP in health statistics is expected to advance public policy and research.

## Conflict of interest statement

W. Rief reports grants from IASP, during the conduct of the study; personal fees from Heel, personal fees from Berlin Chemie, outside the submitted work. A. Barke reports personal fees from IASP, during the conduct of the study. Q. Aziz reports grants and personal fees from Grunenthal, personal fees from Allergan, outside the submitted work. M.A. Giamberardino reports personal fees from IBSA Institute Biochimique, personal fees from EPITECH Group, personal fees from Helsinn Healthcare, grants from EPITECH Group, grants from Helsinn Healthcare, outside the submitted work. A. Goebel reports grants from Axsome, Pajunk, Biotest outside the submitted work. S.-J. Wang reports personal fees from Eli-Lilly, personal fees from Daiichi-Sankyo, grants and personal fees from Pfizer, Taiwan, personal fees from Eisai, personal fees from Bayer, personal fees from Boehringer Ingelheim, outside the submitted work. R.-D. Treede reports grants from Boehringer Ingelheim, Astellas, AbbVie, Bayer, personal fees from Astellas, Grünenthal, Bauerfeind, Hydra, Bayer, grants from EU, DFG, BMBF, outside the submitted work. The remaining authors have no conflict of interest to declare.

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## Appendix A. Supplemental digital content

Supplemental digital content associated with this article can be found online at http://links.lww.com/PAIN/A658. SDC includes a complete reference list of the diagnoses entered into the foundation with the foundation IDs as well as the extension codes (specifier). Since the complete list is contained, the material is identical for all papers of the series.

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