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16º CONGRESSO NACIONAL DE PEDIATRIA

22-24 OUTUBRO 2015 | ALBUFEIRA



Dor no doente crónico

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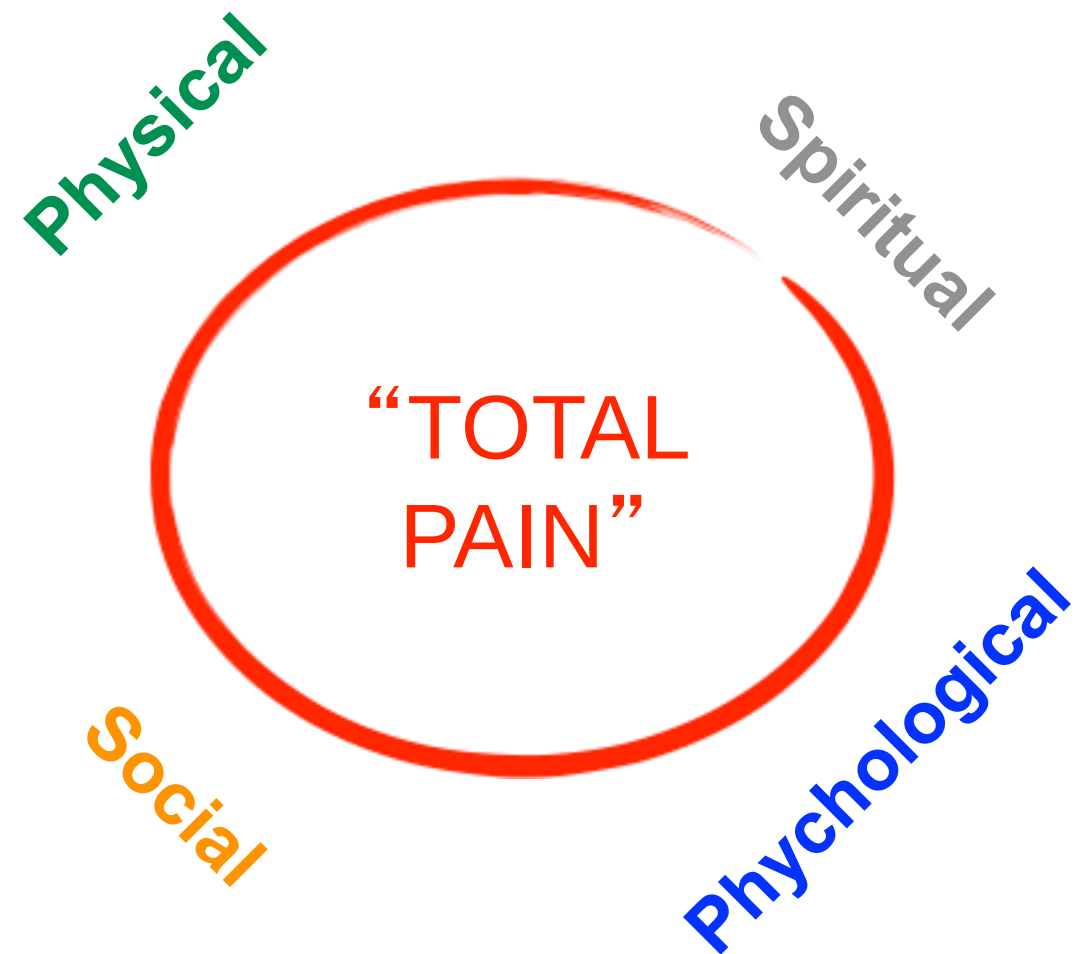
DOR



“uma experiência sensorial e emocional desagradável associada a dano real ou potencial de tecidos ou descrita em termos de tal dano”

PAIN

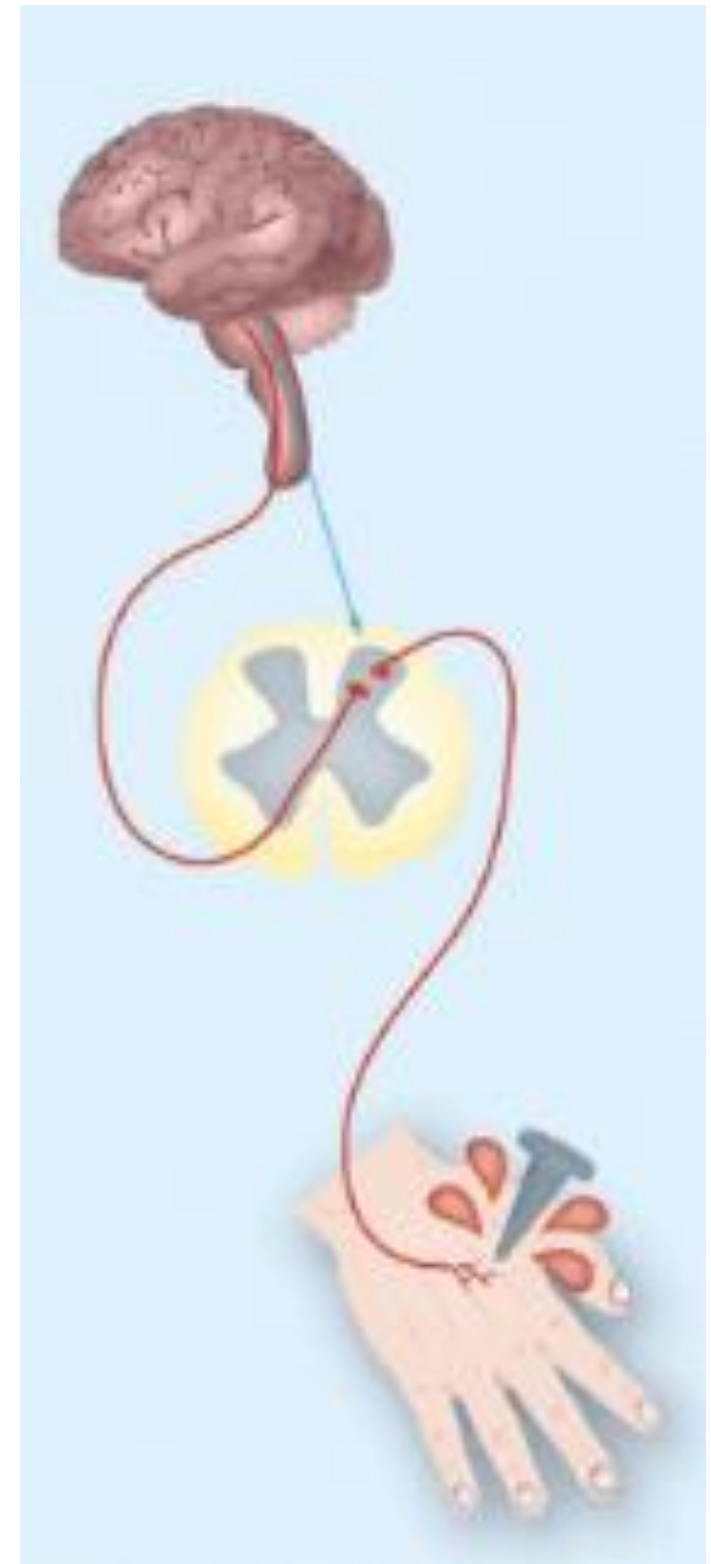
Cecily
Saunders



Types of PAIN

Physiology

- Nociceptive Pain
- Neuropathic Pain
- Mixed Pain



Dra. Ortiz San Román

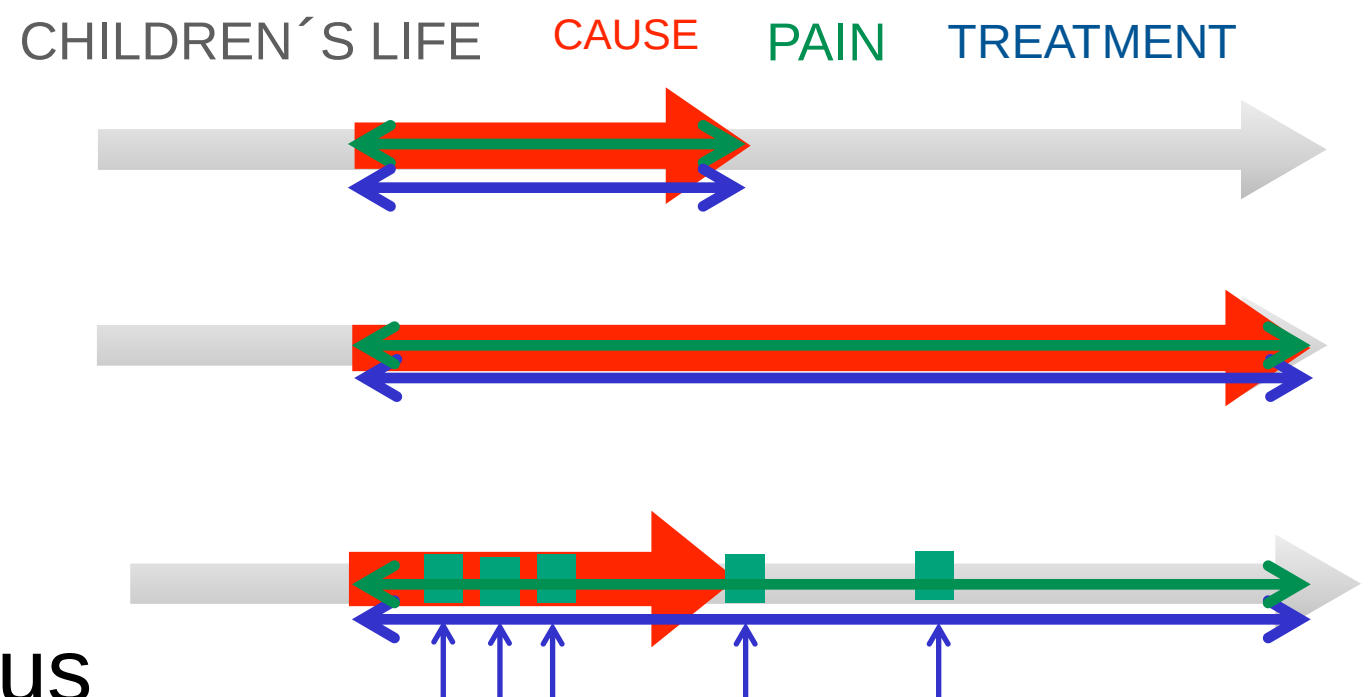
Types of PAIN

Chronology

- Acute Pain
- Chronic Pain
- Breakthrough Pain

1. Incidental / Spontaneous

2. End-dose Pain



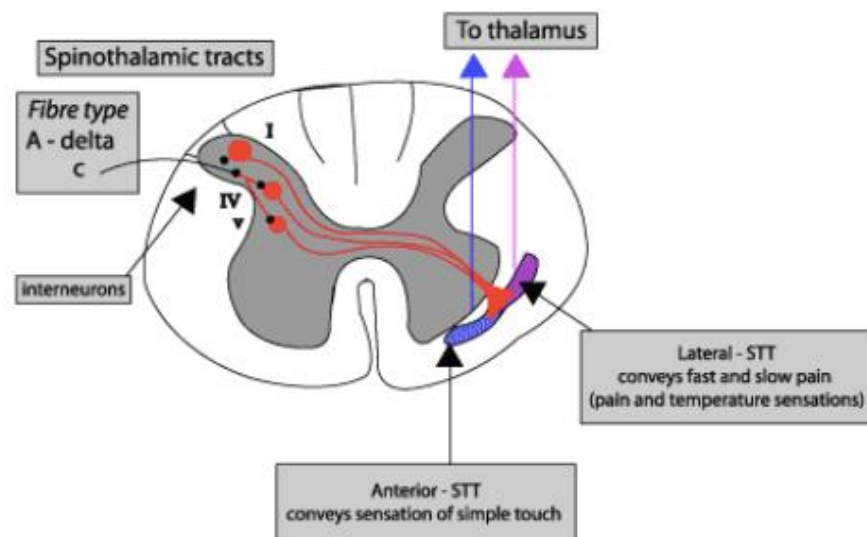
Types of PAIN

Acute vs

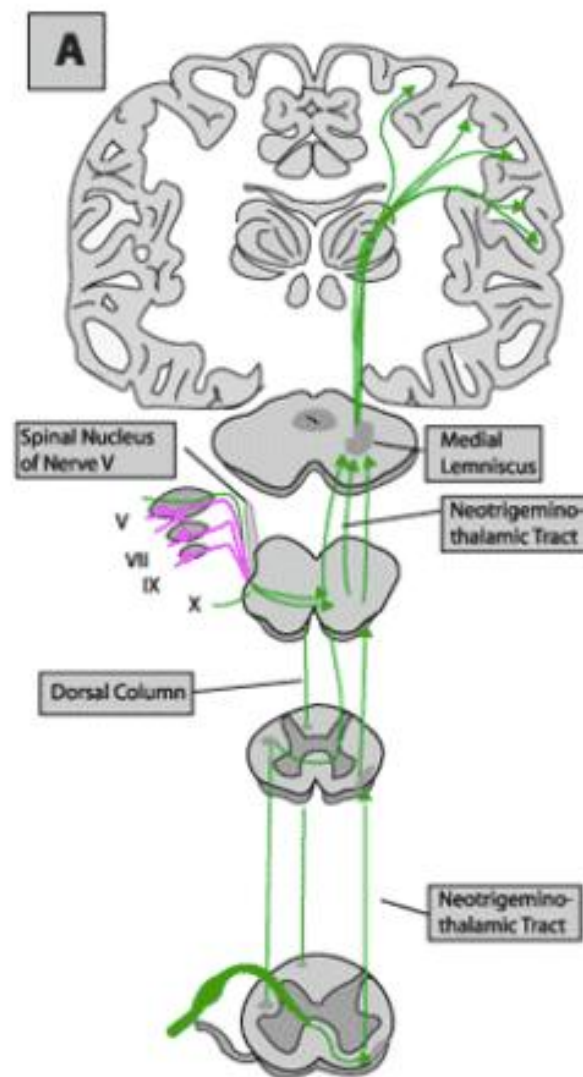
Chronic

Spinotalamic tracts:

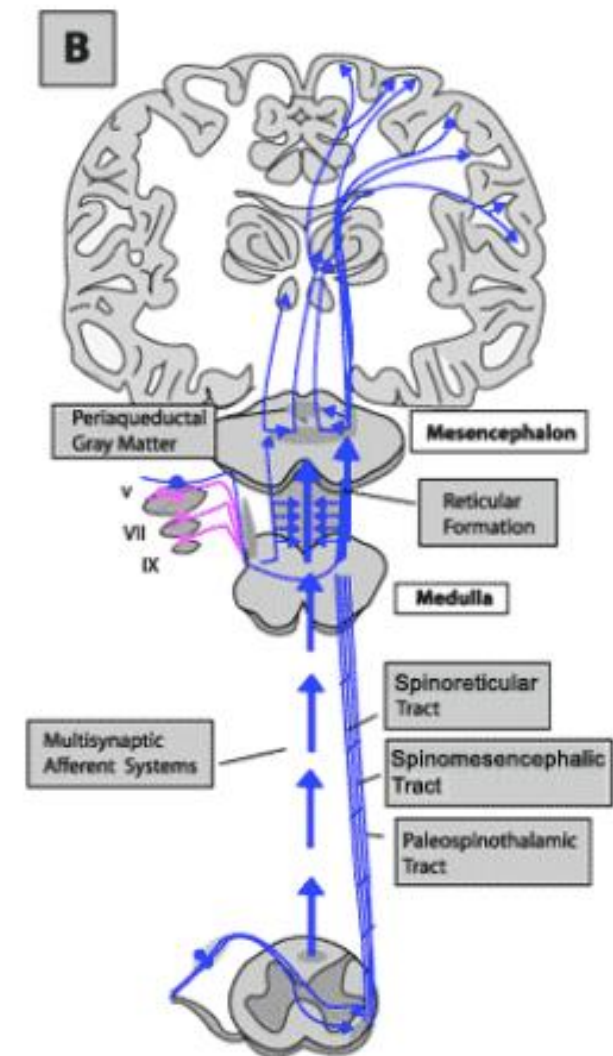
- Anterior - Neo... (contralateral)
- Lateral - Paleo... (bilateral)



Acute Pain



Chronic Pain



CAUSES of pain in children with chronic conditions

Age, sex, epidemiology, habits,
immunizations ...

Causes of pain in Pediatrics
+
Causes of pain associated with the
chronic disease

Neurological damage
Oncological diseases
Chronic organ failure
Other diseases

CAUSES of pain

in children with severe neurological impairment

Cerebral Palsy

Autores	Muestra	Prevalencia de dolor
Penner, M., Xie, W. Y., Binopal, N., Switzer, L., & Fehlings, D. (2013).	252 pacientes con PCI de 3 a 19 años. Media de edad 9,5 +- 4,2 años.	55,6%
Parkinson, K. N., Dickinson, H. O., Arnaud, C., Lyons, A., & Colver, A. (2013)	667 pacientes con PCI de 13 a 17 años	77%

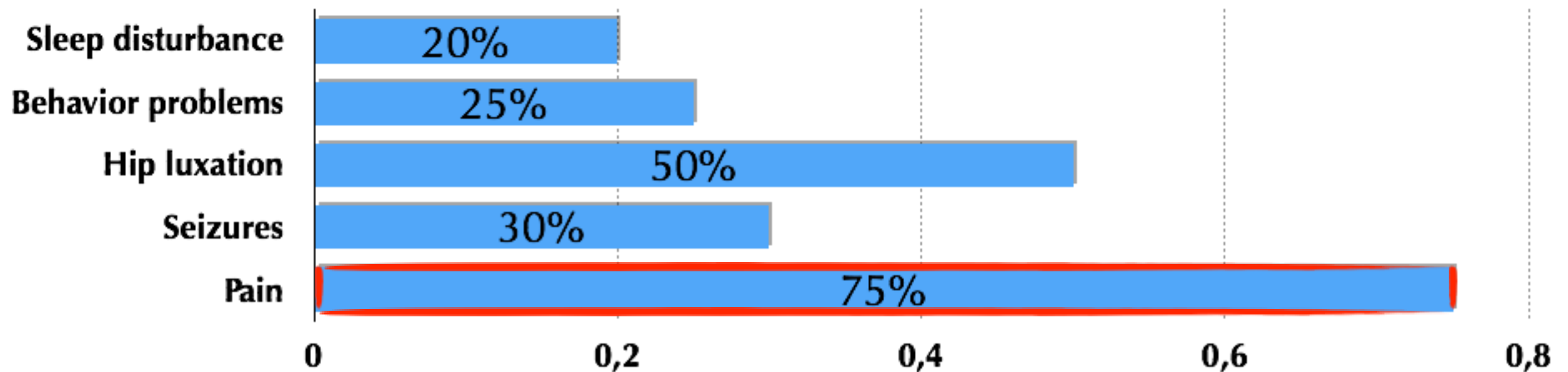
INTENSE PAIN
25%

CAUSES of pain

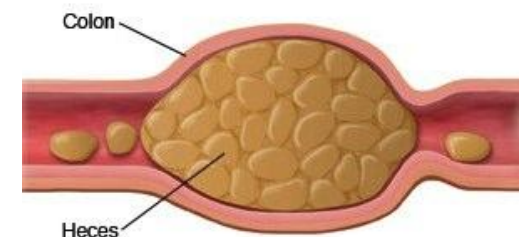
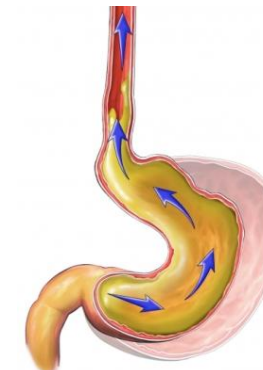
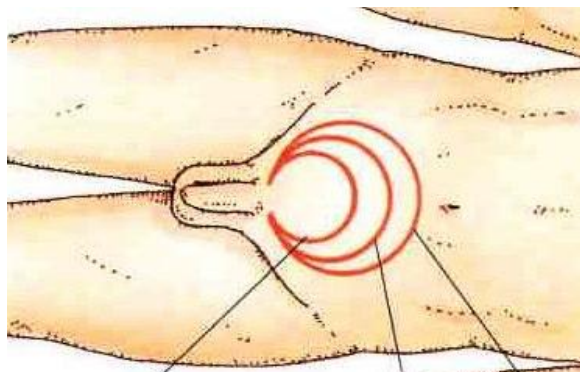
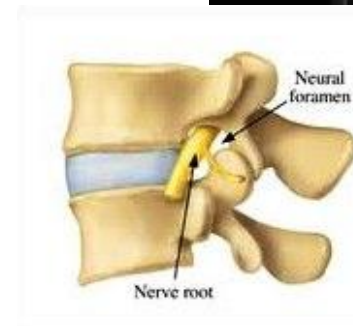
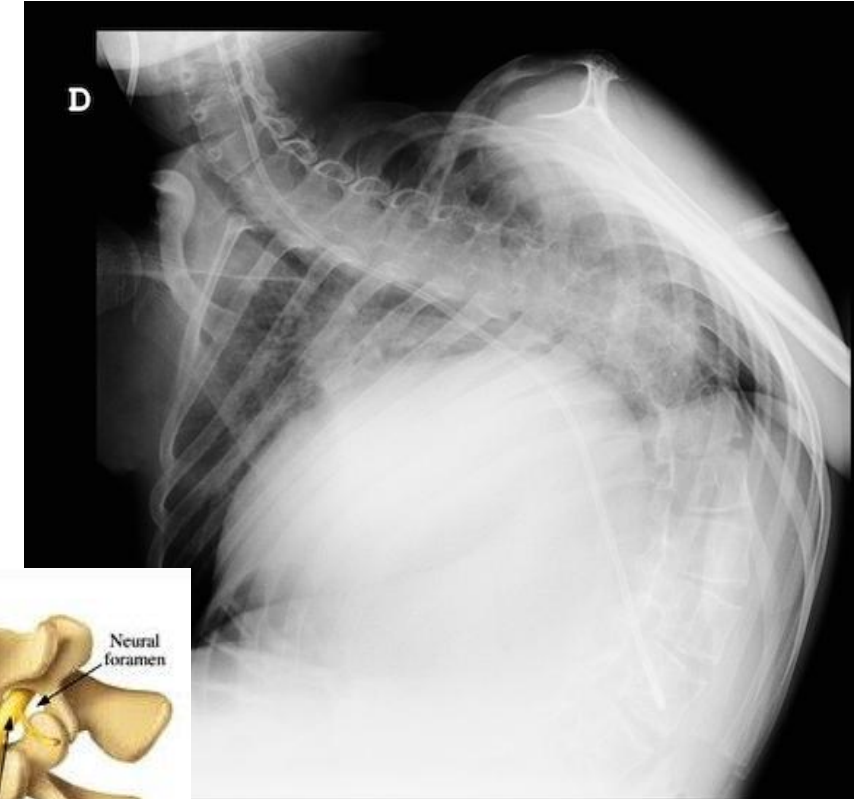
in children with severe neurological impairment

Cerebral Palsy

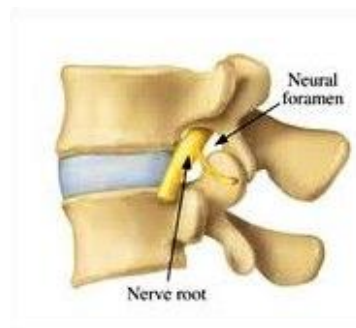
Novak I et al. Clinical prognostic messages from a systematic review on Cerebral Palsy. Pediatrics 2012



CAUSES of pain in children with severe neurological impairment



CAUSES of pain in children with severe neurological impairment



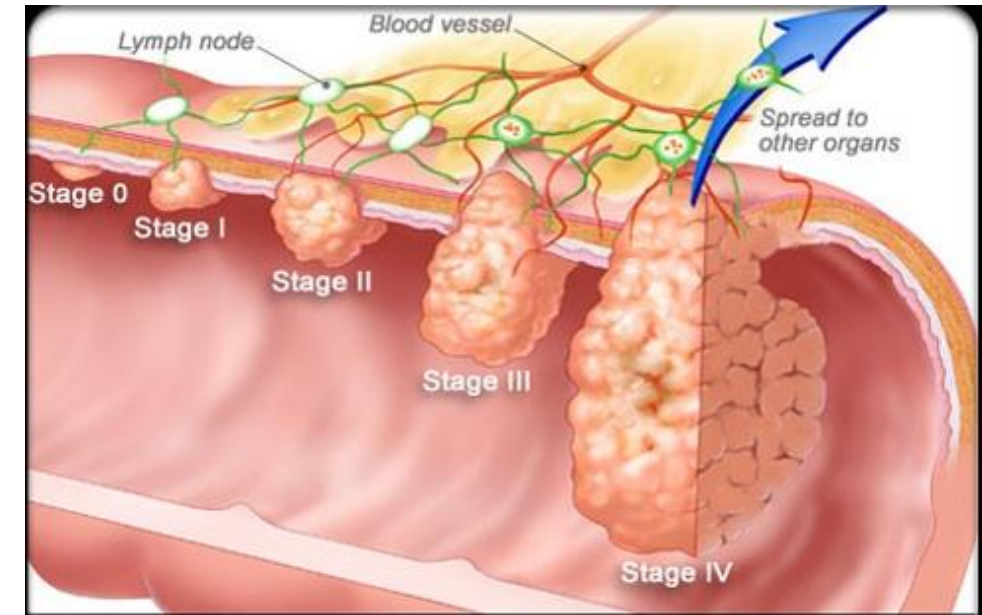
CENTRAL & VISCERAL HYPERALGESIA

CAUSES of pain in children with oncological diseases

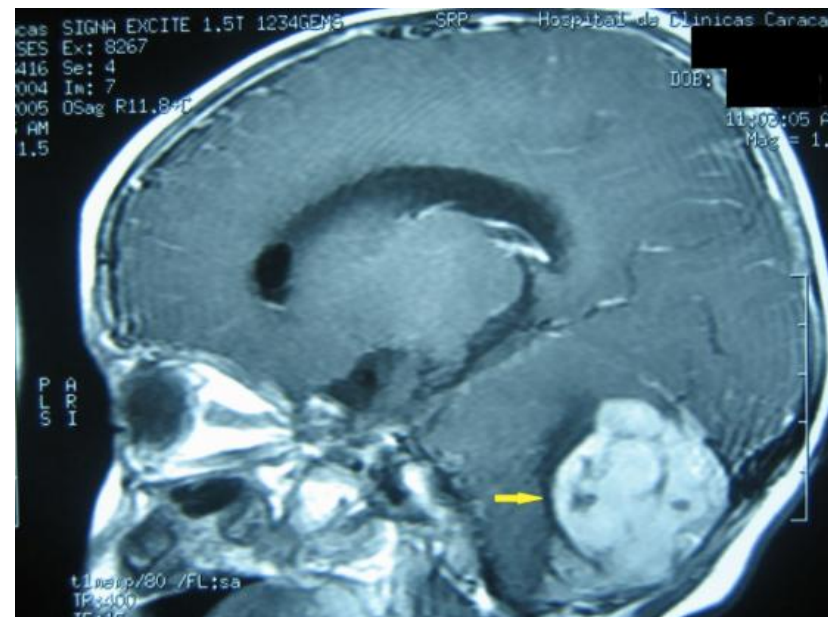
Swelling



Compression



Infiltration



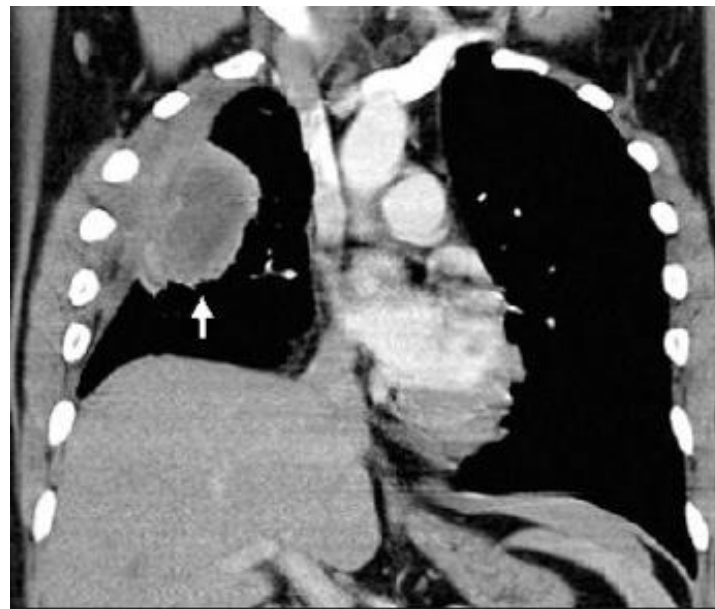
Ischemia



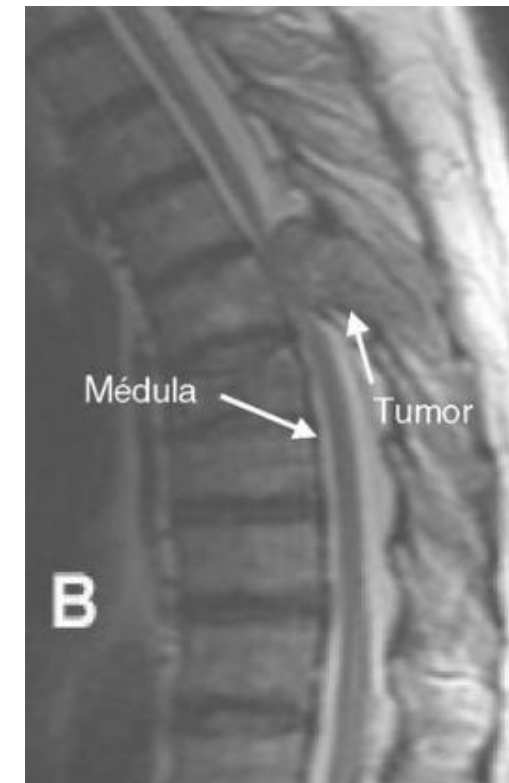
CAUSES of pain

in children with oncological diseases

Damage of:
pleura, hepatic
capsule,
meninges,
periosteum

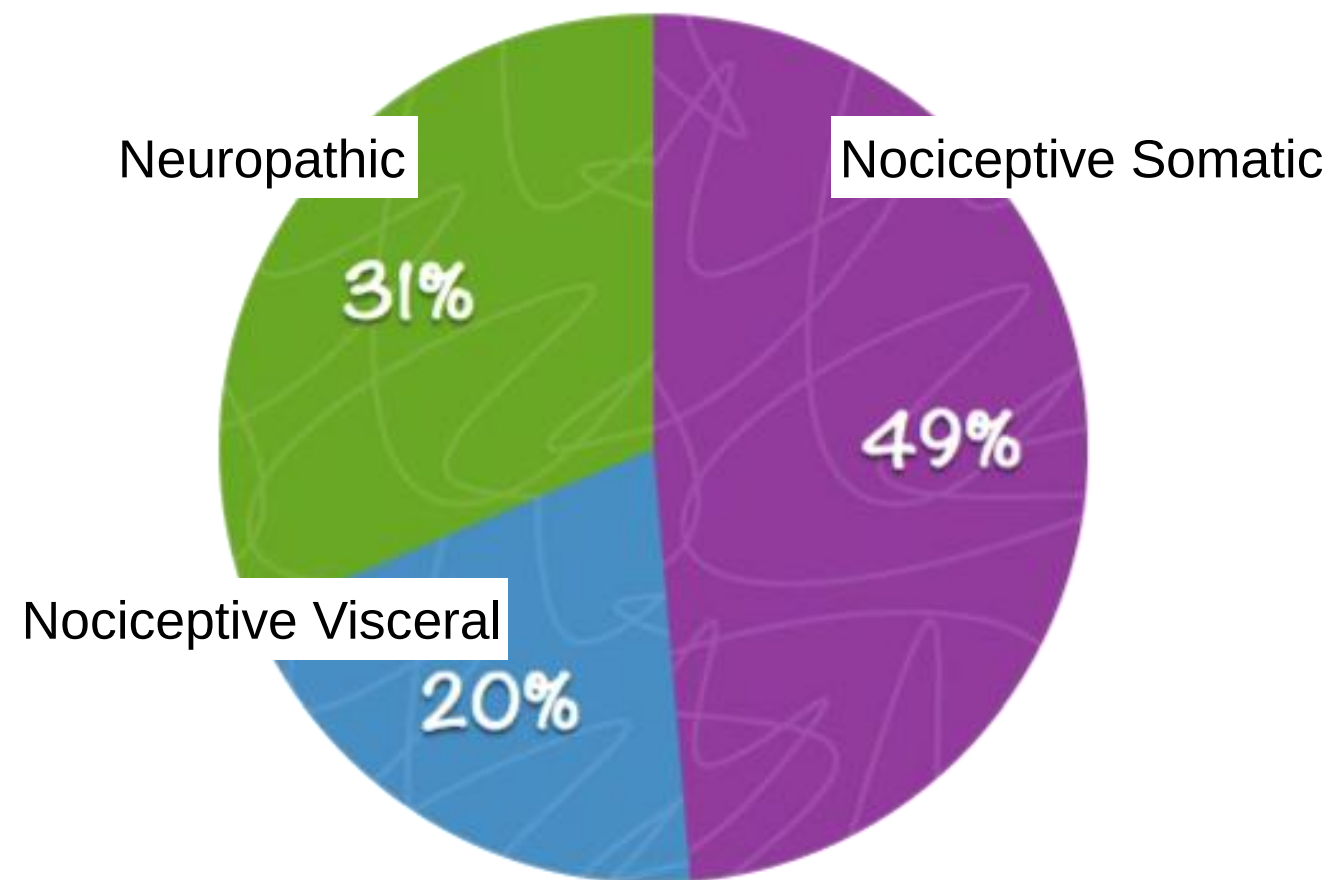


Drug toxicity



Spinal cord
compression

CAUSES of pain in children with HIV and AIDS



Amery J. Children's Palliative Care in Africa

CAUSES of pain

in children with HIV and AIDS

Pain related to HIV/ AIDS (45%)

Peripheral neuropathy

HIV myelopathy

Kaposi's sarcoma

Secondary infections

Organomegaly

Arthritis/Vasculitis/
Osteonecrosis of the
hip

Myopathy/Myositis

Pain related to HIV/ AIDS therapies (15-30%)

2^{ary} effect of ART

2^{ary} effect of TB treatment

2^{ary} effect of Chemotherapy

Radiation

Surgery

Procedures (blood test, lumbar
puncture, biopsies,
bronchoscopy)

Pain related to psychosocial stressors/emotional pain

Living with a chronic illness

Poverty

Long period of hospitalization, maternal
separation

Clinical depression

Being teased

Potential or actual loss (bereavement) of
a parent or any other loved one

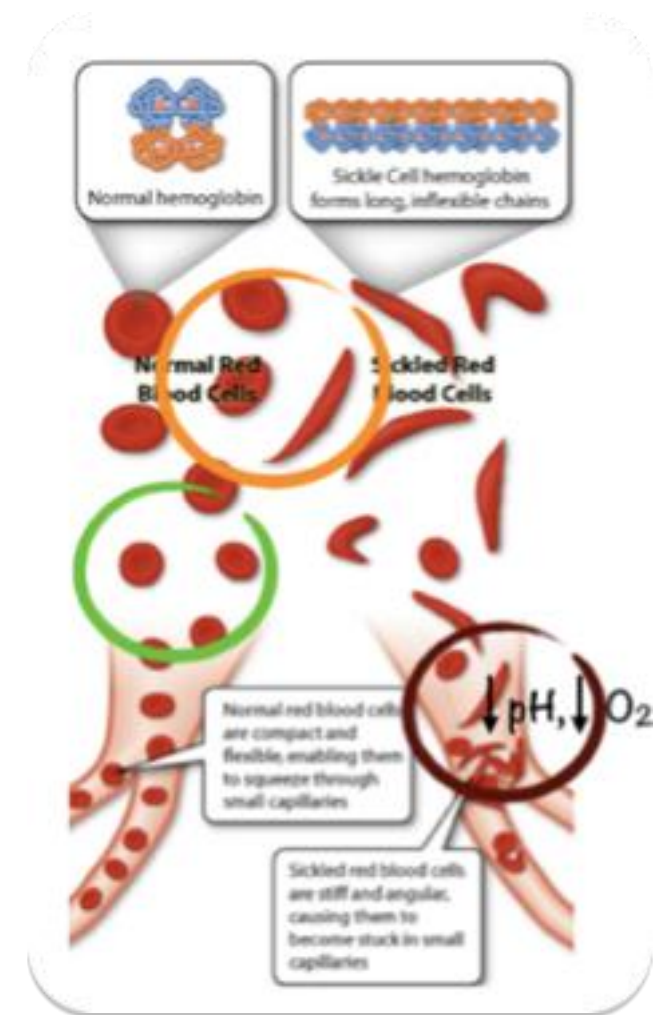
Normal anxieties of childhood

Amery J. Children's Palliative Care in Africa

CAUSES of pain

in children with other chronic conditions

- **Sickle cell disease:** vaso occlusive episodes, avascular necrosis, nerve infarction, vertebral collapse, iron overload neuropathy...
- **Heart failure:** ischemia, venous stasis...
- **Respiratory failure:**
Hypercapnia —> head aches



The STRATEGY for managing pain

WHO
guidelines on
the pharmacological
treatment of persisting
pain in children with
medical illnesses



http://apps.who.int/iris/bitstream/10665/44540/1/9789241548120_Guidelines.pdf

The STRATEGY for managing pain

**PAIN
DIAGNOSIS**

**ETIOLOGIC
TREATMENT**

**PATHOPHYSIOLOGIC
TREATMENT**

**SYMPTOMATIC
TREATMENT**

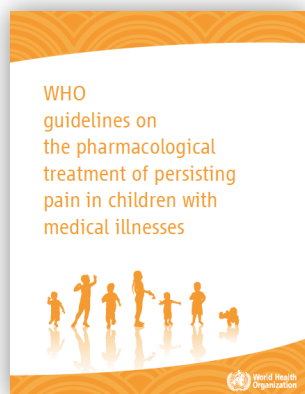
Clinical history, exploration, knowledge of the most common causes of pain depending on age & disease; **Pain Scales**

1st cure if possible ... +

2nd use adjuvant analgesics ... +

3rd use analgesic drugs ... +

4th revaluation



Dra. Ortiz San Román

The STRATEGY for managing pain

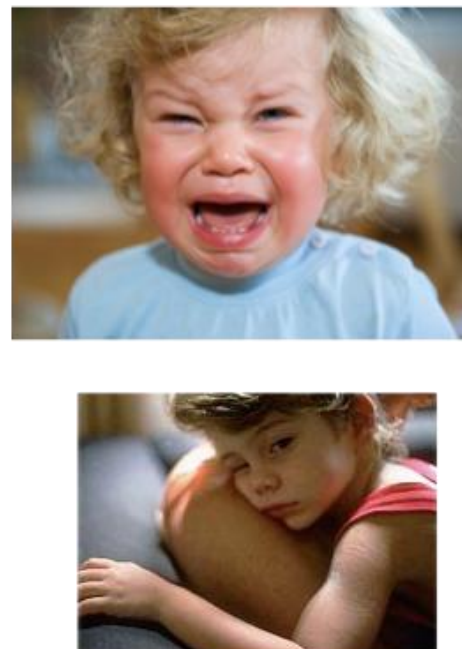
PAIN DIAGNOSIS

patients without communication difficulties

CRIES Scale



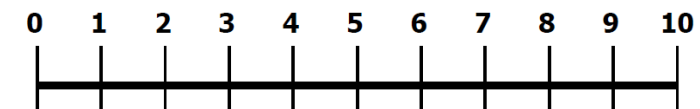
FLACC Scale



FACES Scale



Walco Howite Scale



+



-

The STRATEGY for managing pain

PAIN DIAGNOSIS

patients with communication difficulties



Feeding



Behaviour



Face



Sleep

+

-

The STRATEGY for managing pain

PAIN DIAGNOSIS

patients with communication difficulties

- Pediatric Pain Profile
- Non Communicating Children's Checklist
- Pediatric Pain Interference Scale
- ...



Crying and other sounds
Movements and posture
Face and skin changes
Feeding and sleep
Social behavior
Activity level

The STRATEGY for managing pain

+ PATHOPHYSIOLOGIC
TREATMENT

Adjuvant analgesics

- Neuropathic pain: gabapentin, pregabalin, amitriptyline, ketamine, lidocain patches ...
- Muscle spasticity & dystonia: diazepam, baclofen, tizanidine, Botulin Toxine ...
- Inflammation: dexametasone, ibuprofen, dexketoprofen ...
- Others: macrogol, prokynetics ...
- Regional anesthesia techniques ...
- Non pharmacologic therapies: music therapy, massage, play therapy...

The STRATEGY for managing pain

+ SYMPTOMATIC
TREATMENT

Analgesics

Severe
pain

Moderate
pain

**Regular intervals with
addition of
Rescue doses**

Strong opioid analgesics

+

Non opioid analgesics

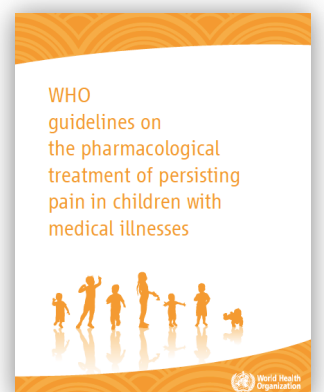
Mild pain

Non opioid analgesics



Paracetamol,
Metamizol,
Ibuprofen, etc

Morfine,
Fentanil,
Metadone,
etc



The STRATEGY for managing pain

SYMPTOMATIC TREATMENT

Analgesics

Box 3.1 Excluded medicine for pain relief

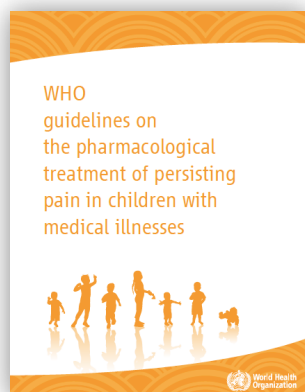
Codeine

Codeine is a “weak” opioid that is widely available and has been previously recommended to control moderate pain. However, it presents well-known safety and efficacy problems related to genetic variability in biotransformation. Codeine is a prodrug that is converted into its active metabolite morphine by the enzyme CYP2D6. The efficacy of a prodrug depends on the amount of active metabolite formed. Variable expressions of the enzymes involved in the biotransformation of prodrugs can lead to substantial inter-individual and inter-ethnic differences in the conversion rate and the plasma concentration of the active metabolite. In the fetus, CYP2D6 activity is absent or less than 1% of adult values. It increases after birth, but it is estimated to be no higher than 25% of the adult values in children below five years. As a consequence, the analgesic effect is (very) low or absent in neonates and young children.

Furthermore, the percentage of poor metabolizers can vary in ethnic groups from 1% to 30%, resulting in ineffectiveness in large numbers of patients, including children (67, 68). Conversely, individuals who metabolize codeine quickly and extensively are at risk of severe opioid toxicity, given the high and uncontrolled conversion of codeine into morphine (69).

Insufficient data on other intermediate potency opioids

Tramadol is another analgesic with opioid effects that has been considered for the control of moderate pain. However, there is currently no available evidence for its comparative effectiveness and safety in children. Furthermore, tramadol is not licensed for paediatric use in several countries. More research on tramadol and other intermediate potency opioids is needed.



CONCLUSIONS

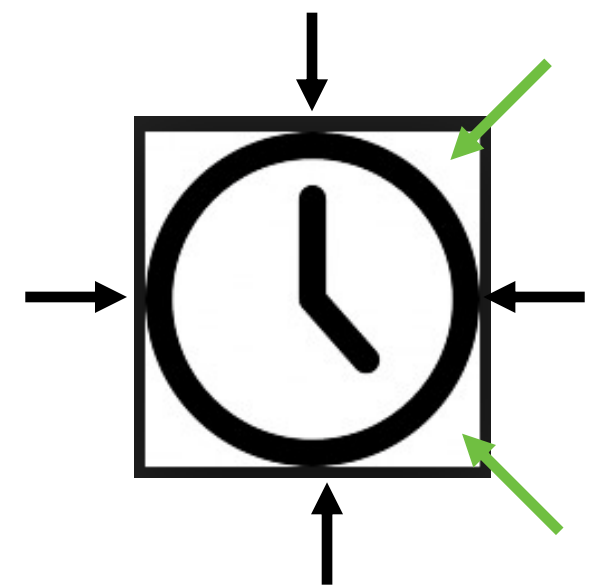
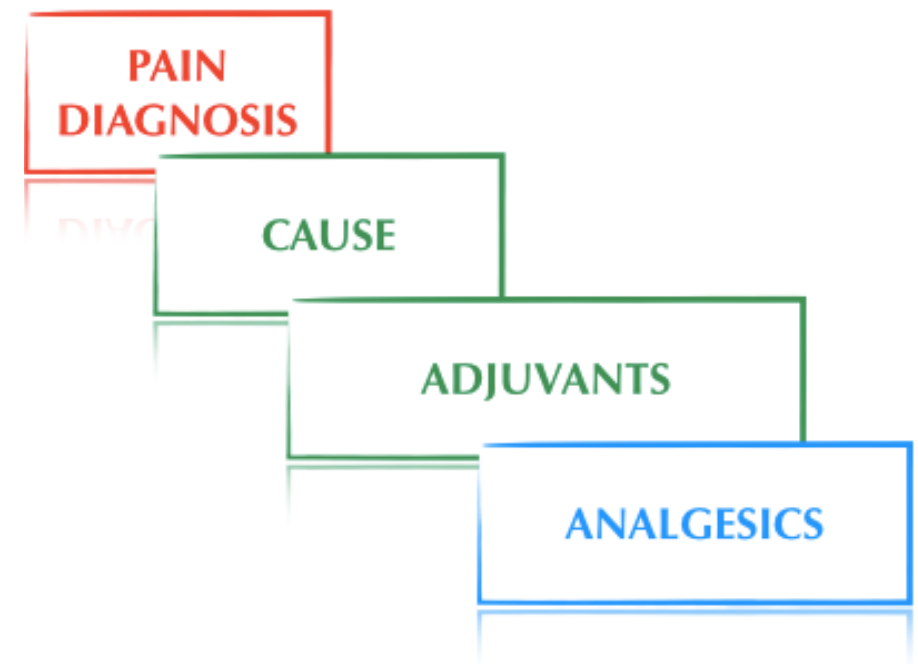
Children with chronic conditions may suffer from pain

Their communication difficulties should not exempt us from making a proper diagnosis and treatment

CONCLUSIONS

The most frequent causes

- in Pediatrics
- of their illness



Dra. Ortiz San Román



Dr. A. Navarro Mingorance