



XXXVIII Curso de
REUMATOLOGIA
**CIÊNCIA NA
PRÁTICA
CLÍNICA
2018**

“Dores de Crescimento”

23 Fevereiro

João Nascimento
Hospital Pediátrico Coimbra

Sumário

- Evolução do diagnóstico
- Prevalência
- Etiopatogenia
- Clínica das crises dolorosas
- Critérios de exclusão / risco
- Questionários rastreio
- Orientação e terapêutica
- Prognóstico

Evolução do diagnóstico

- 1823 – “Maladies de la croissance” - *Marcel Duchamp* Duchamp M. Maladies de la croissance. In: Levraut FG, editor. Memoires de Médecine Pratique Paris, Jean-Frederic Lobstein. 1823.
- 1894 – “Growing pains” - *Bennie P* Bennie P. Growing pains. Arch Pediatr. 1894;11:10.
- 1931 – “Race, Rheumatism and Growing Pains” - *Hawksley J* Hawksley J. Race, Rheumatism and Growing Pains. Arch Dis Child. 1931;6:303-306.

The children seen tended to fall into three distinct categories.

- (1) Blue eyes, and flaxen or light brown hair. These have been taken as representing the Nordic type.
- (2) Brown eyes and dark brown or black hair. These have been taken as representing the Iberian type.
- (3) Brown eyes and light brown hair. These may be regarded as either mixtures of the other two, or, in cases where brachycephaly is marked, as having an Alpine element.*

In the first group of 505 cases in London¹ the history of growing pains was inquired into as an indication (we now think wrongly) of a rheumatic tendency. The results were:—

Nordic type	...	...	29.0%	gave a positive history.
Iberian type	...	...	39.8%	“ ” “ ” “ ”
Intermediate type	...	...	38.6%	“ ” “ ” “ ”

In a second series of 206 cases in Birmingham a similar inquiry yielded:—

Nordic type	...	...	33.0%	gave a history of growing pains.
Mediterranean type	...	...	57.7%	“ ” “ ” “ ”
Intermediate type	...	...	48.8%	“ ” “ ” “ ”

In the first 505 children the ages ranged from 4 to 14, in the rest 4 to 12 years inclusive.

Summary.

1. We are unable to confirm the view that the Nordic child is predisposed to rheumatism.
2. Evidence is produced to the effect that 'growing pains' are commoner in Mediterranean and Intermediate types of children than in Nordics.
3. It is suggested that the greater frequency of 'growing pains' in the more pigmented types of child is due to metabolic or constitutional factors rather than an increased susceptibility of rheumatism.

“...acidosis or ketosis in children of a lively type”

“...acid or hypercalcaemic type”

“...is the greater apparent sensitivity to pain of the more pigmented child”

Evolução do diagnóstico

- 1972 – Definição do conceito e 1ª investigação epidemiológica Oster J, Nielson A. Growing pain: a clinical investigation of a school population. Acta Paediatr Scand. 1972;61:329-334. doi: 10.1111/j.1651-2227.1972.tb16108.x [PubMed] [Cross Ref]
- 2ª causa mais frequente de dor recorrente em crianças saudáveis
- Padrão familiar (“...complaints which belong to a special emotional familial pattern.”)

- Dores **intermitentes, incapacitantes de localização mal definida**, normalmente **bilateral** nos membros superiores e/ou **inferiores** das crianças e adolescentes e que ocorrem durante vários meses ou anos.
- A dor **não é articular**, mas ocasionalmente é acompanhada de sensação de fadiga (“restlessness”) mas nunca por tumefação, rubor ou outros sinais inflamatórios.
- A dor não agrava com a marcha que é sempre normal.
- A dor é de predomínio **vespertino ou noturna** mas desaparece de manhã.
- As dores persistem **> 3 meses** (critérios de Naish e Apley - Arch Dis Child 1951;26:134)

Evolução do diagnóstico

- Síndrome dolorosa recorrente na criança associado ao crescimento = adjetivação conveniente
- **Vantagens:** implícito a sua benignidade e o seu carácter transitório
- **Desvantagens:** excesso e abuso diagnóstico / erros na referenciação / diagnóstico exclusão

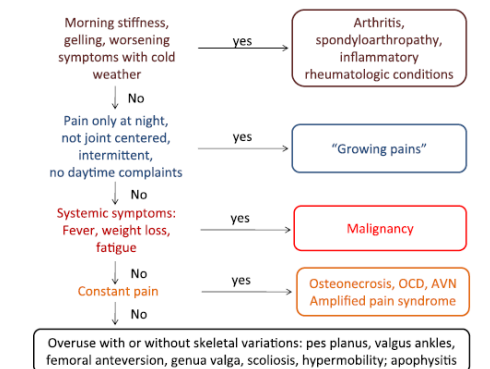


Fig. 1. Musculoskeletal pain decision tree. AVN, avascular necrosis; OCD, osteochondrosis dissecans.

Weiser P. Approach to the Patient with Noninflammatory Musculoskeletal Pain. *Pediatr Clin N Am* 59 (2012) 471–492

Evolução do diagnóstico

- Sem relação com o crescimento

- Não se iniciam nos períodos de maior crescimento (primeiros 2 anos e puberdade).
- Os locais de dor são geralmente as diáfises e o crescimento ósseo é nas metáfises.
- Os segmentos do corpo afetados são as extremidades (++ membros inferiores).
- Sem anomalias ou alterações do ritmo de crescimento.

Salgado M. "Dores de crescimento". Abordagem em consulta de pediatria da criança ao adolescente. 2015

Oster J, Nielson A. Growing pain: a clinical investigation of a school population. *Acta Paediatr Scand*. 1972;61:329–334. doi: 10.1111/j.1651-2227.1972.tb16108.x. [PubMed] [Cross Ref]

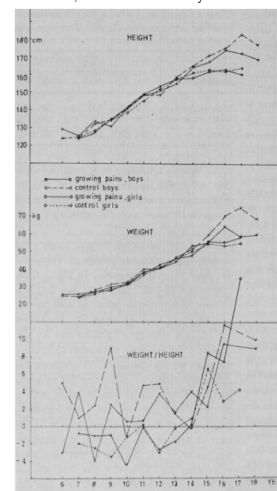


Fig. 2. Height, weight and weight/height ratio-dependent on age in boys and girls with and without growing pains.

Prevalência

- Variável ou desconhecida.
- 3,5 % na consulta de Reumatologia Pediátrica HPC (queixas frequentes)

in their late teens.^{1,3,10,12,16–25} The reported prevalence of growing pains depends on the particular study inclusion and exclusion criteria (which were often not clearly specified in these historic studies), the setting in which data were collected (school, clinic or hospital and, therefore, whether the child was well or sick when seen) and the methods by which the data on pain were obtained (record of presenting complaint, review of systems, or specific questionnaire). Williams¹⁶ noted that, unless patients were specifically asked whether they had aches anywhere or growing pains, parents and children seldom mentioned these during regular clinic visits.

Lowie R, Hashkes P. Growing pains: a noninflammatory pain syndrome of early childhood. *Nature Clinical Practice Rheumatology*. 2008 vol 4 n 10

Table 1

Summary of the nine published prevalence estimates of growing pains

		Prevalence (%)	Sample size	Age (y)
Williams, 1928	Semi-urban	44.4	216	8–10
		39.8	88	10–12
		21.2	203	12+
	Rural	49.4	324	8–10
		43	135	10–12
		28	311	12+
Hawksley, 1938		33.6	505	4–14
Naish and Apley, 1951		4.2	721	—
Brenning, 1960a		13.6	257	6–7
Brenning, 1960b		19.8	419	10–11
Oster and Neilsen, 1972		15.5	2178	6–19
Abu-Arafeh and Russell, 1996		2.6	2165	5–15
Mikkelsen et al, 1997		19.8	1626	9.9
				11.8
Oberklaid et al, 1997		11.5	183	8.5 mean

Prevalência

- Mais comum no sexo feminino (1,5:1)
- Idade: ≈ 3-13 anos

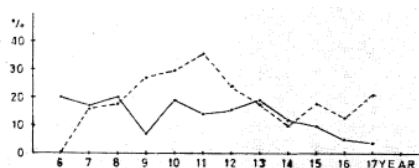


Fig. 1. The percentage incidence of growing pains in 1062 boys — and 1116 girls — aged 6–19 years from the school session 1968/69.

Oster J, Nielson A. Growing pain: a clinical investigation of a school population. *Acta Paediatr Scand*. 1972;61:329–334. doi: 10.1111/j.1651-2227.1972.tb16108.x. [PubMed] [Cross Ref]

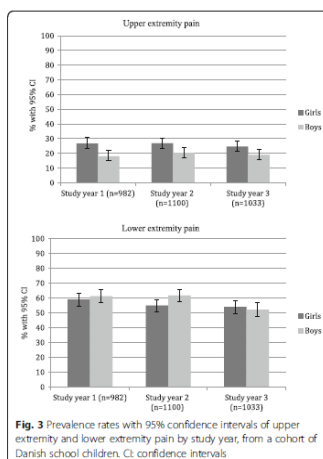


Fig. 3 Prevalence rates with 95% confidence intervals of upper extremity and lower extremity pain by study year, from a cohort of Danish school children. CI: confidence intervals

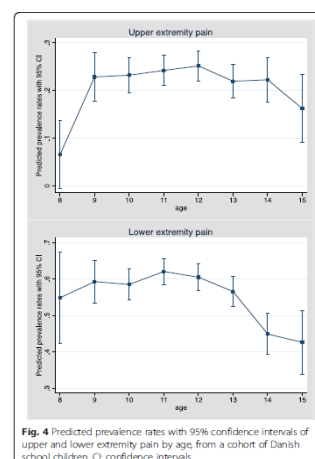


Fig. 4 Predicted prevalence rates with 95% confidence intervals of upper and lower extremity pain by age, from a cohort of Danish school children. CI: confidence intervals

Fuglkjaer et al. *BMC Musculoskeletal Disorders* (2017) 18:492

Etiopatogenia

- Desconhecida
- Síndrome de Amplificação Dolorosa ?
- Síndrome *overuse* / fadiga – exercício físico ? (*e os episódios noturnos ou dos membros superiores?*)
- Alteração perfusão vascular (= enxaqueca) ?

Table 2

Summary of the recent studies which have established new aetiological theory for growing pains (GP).

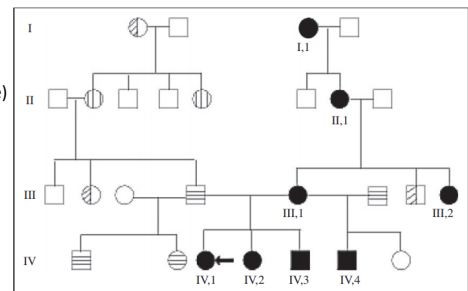
Date	First Author	Sample size	Research design	Findings	New theory
2004	Hashkes, PJ	GP group: n = 44 No GP control: n = 46	Case control Dolorimeter (pressure)	GP group had lower pain thresholds	GP may be a variant of a non-inflammatory pain syndrome
2005	Friedland, O	GP group: n = 39 No GP control: n =	Case control Ultrasound bone speed, tibia and radius	GP group had reduced tibial bone speed.	GP may represent a local overuse syndrome.
2005	Hashkes, PJ	GP group: n = 11 No GP control: n = 12	Case control Bone scintigraphy, tibia	GP group did not have altered vascular perfusion when compared with control group	GP are not associated with altered vascular perfusion as opposed to migraine

Etiopatogenia

- Desconhecida
- Associação com Enxaqueca ? (hereditariedade autossômica dominante)

Cephalalgia International Headache Society
 Brief Report
Familial limb pain and migraine: 8-year follow-up of four generations
 Heather Angus-Leppan^{1,2} and Roberto J Guilloff^{3,4}

Cephalalgia
 2016; Vol. 36(11) 1086–1093
 © International Headache Society 2015
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 DOI: 10.1177/0333102415625906
icj.sagepub.com
 SAGE



Conclusions: This is the first report of dominant familial limb pain temporally associated with migraine headache, starting in adulthood or starting in childhood and continuing into adulthood. A search for a genetic marker is indicated. Limb pain should be included as a childhood periodic syndrome linked to migraine and recognized as part of the migraine spectrum in adults.

poral association with headache. It may fulfil the IHS criteria for aura and be an extracranial site for migraine. Central convergence of nociceptive pathways may be relevant to its pathogenesis. A genetic marker

Response to treatment

Headaches and limb pain responded well to analgesia during episodes. In one patient (III1) prophylaxis was indicated and the frequency of headaches and limb pain was reduced by propranolol.

Etiopatogenia

- Desconhecida
- Associação com Enxaqueca ?
(hereditariedade autossômica dominante)

Vit D + ferro → mantinha episódios de dor com necessidade de analgesia

Propanolol desde Dezembro 2017 → diminuição do número de episódios

• Dores nos membros Eq. enxaqueca

☐ Quadro clínico familiar, de **transmissão autossômica dominante**

☒ Manifestação em criança de dores nos membros (DM):
☐ Mãe ☒ Pai

☒ Manifestação no adulto: enxaqueca
☐ Mãe ☒ Pai

☐ Idade início das dores nos membros: 8 aos 30 anos 3,6

☐ Localização das dores músculo-esqueléticas (DME):
☐ Pescoço (cervicalgias)
☐ Cervicalgias recorrentes
☐ Tórax
☐ Membros superiores
☐ Ombros ☐ Antebraços
☐ Braços ☐ Mãos
☒ Membros inferiores
☐ Coxas ☒ Pernas

☐ Lateralidade das dores nos membros:
☒ Unilateral por crise - regra
☒ Unilateral alternante - comum
☐ Ipsilateral às cefaleias - maioria das vezes
☐ Não ipsilateral às cefaleias

☐ Manifestações associadas **nas crises**:
☐ Palidez nas crises
☐ Perturbação da actividade
☐ Aura das cefaleias - frequente

☐ Cefaleias - relação temporal com DME / DM:
☐ Prévias às DME
☐ Durante as DME
☐ Após as DME
☐ As DME podem correr isoladamente na idade adulta

☐ Tratamento - relação com tratamento da **enxaqueca**:
☐ Boa resposta ao tratamento agudo e preventivo
☐ Resposta semelhante às outras manifestações
☐ Não resposta ao tratamento agudo e preventivo

☐ Duração das recorrências das DM: 5 anos a 52 anos

☐ Autossômica dominante

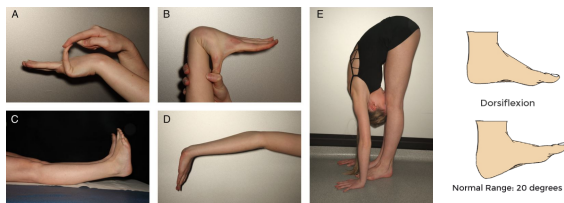
Diagnóstico diferencial:

☐ Adultos
☐ "Nerve entrapment"
☐ Radiculopatia
☐ Thoracic outlet syndrome
☐ Síndrome de fadiga crónica
☐ Sintomas "funcionais"
☐ Reumatismos palindrômicos
☐ Reumatismos intermitentes

☐ Crianças
☐ Dores de crescimento
☐ Dores ósseas
☐ Artralgias
☐ Fobia escolar / school avoidance
☐ Recusa da marcha

Etiopatogenia

- Desconhecida
- Síndromes de Hipermobilidade (*aplicação score de Beighton / score Beighton adaptado idade pré-escolar em 2016 ?*)



> 30 graus: 1

CLINICAL MANEUVER	UNABLE TO PERFORM (0 POINTS)	ABLE TO PERFORM (1 POINT)
Apposition of thumb to forearm	0	1
Right	0	1
Left	0	1
Extension of fifth finger beyond 90 degrees	0	1
Right	0	1
Left	0	1
Extension of elbow beyond 10 degrees	0	1
Right	0	1
Left	0	1
Extension of knee beyond 10 degrees	0	1
Right	0	1
Left	0	1
Forward flexion of trunk, legs straight, palms touching floor	0	1
Total Beighton Score (sum of points for each maneuver)	0 to 9 points	

Table 2. Results of Single-Case Experimental Designs for Eight Children with Recurrent Leg Pains ("Growing Pains") and an Age-Inappropriate Pronated Foot Posture

Patient No.ª	Age (y)	Sex	Treatment	Phase							
				Baseline: A1		Intervention: B1		Withdrawal: A2		Reinstatement: B2	
				Freqª	Intª	Freqª	Intª	Freqª	Intª	Freqª	Intª
1	3	M	Triplane wedge	3/wk	5	0	1	0	–	–	–
2	4	M	Triplane wedge	3/mo	–	0	–	2/mo	–	0	–
3	4	F	Triplane wedge	2/mo	5	0	2	2–3/mo	4	1/mo	2
4	4	M	Triplane wedge	7/wk	6	1/wk	2	2/wk	5	1/mo	2
5	5	M	Triplane wedge	2–3/wk	5	0	1	1/wk	4	0	1
6	7	M	Orthoses	2/wk	5	0	1	1–2/wk	3	0	1
7	8	F	Orthoses	2/wk	4	0	1	1/wk	3	0	1
8	10	F	Orthoses	2–3/wk	4	1/mo	2	2/wk	4	0	2

Abbreviations: Freq, frequency; Int, intensity.

Evans AM (2003) Relationship between "growing pains" and foot posture in children: single-case experimental designs in clinical practice. *J Am Podiatr Med Assoc* 93: 111–117

Etiopatogenia

- Desconhecida
- História familiar VS Padrão familiar emocional (ansiedade) ?

pains. A positive family history of growing pains was reported, with affected children having either a parent or sibling having experienced growing pains in almost 70% of cases. Most children were reported to experience grow-

Evans AM. Growing pains: contemporary knowledge and recommended practice. *Journal of Foot and Ankle Research*. 2008;1:4. doi:10.1186/1757-1146-1-4.

VS

regarded as more susceptible [22]. Oberklaid investigated children with growing pains as part of a wider temperament survey and found that parents of affected children rated them to have a negative or intense mood [23].

Evans AM. Growing pains: contemporary knowledge and recommended practice. *Journal of Foot and Ankle Research*. 2008;1:4. doi:10.1186/1757-1146-1-4.

parents of children with growing pains. We found that there was no significant difference in depression levels and quality of life between parents whose children had growing pains and those whose children did not; however, we did find higher levels of anxiety in mothers of patients with growing pains.³⁴

Uziel Y *et al.* (2007) Living with children with growing pains: how does it affect the parents?
J Musculoskel Pain 15: 19–23

Etiopatogenia

- Desconhecida
- Associação com Síndrome Pernas Inquietas ? (local do desconforto / perturbação do sono / associação familiar)

DIAGNOSTIC CRITERIA FOR CHILDHOOD RLS (ages 2–12 y)

Adult essential criteria:

1. An urge to move the legs, usually accompanied or caused by uncomfortable and unpleasant sensations in the legs. (Sometimes the urge to move is present without the uncomfortable sensations and sometimes the arms or other body parts are involved in addition to the legs).
2. The urge to move or unpleasant sensations begin or worsen during periods of rest or inactivity such as lying or sitting.
3. The urge to move or unpleasant sensations are partially or totally relieved by movement, such as walking or stretching, at least as long as the activity continues.
4. The urge to move or unpleasant sensations are worse in the evening or night than during the day or only occur in the evening or night. (When symptoms are very severe, the worsening at night may not be noticeable but must have been previously present).

Definite RLS in children:

- (a) the child meets all 4 essential criteria for RLS and
- (b) there is a description, in the child's own words, consistent with leg discomfort. } Definite 1

OR

- (a) the child meets all 4 essential criteria for RLS and
- (b) 2 of 3 criteria supportive of the diagnosis are present (see below). } Definite 2

Terms such as "oozies," "tickles," "spiders," "boo-boo's," "want to run," and "a lot of energy in my legs" may be used by the child to describe symptoms. Age-appropriate descriptors are encouraged.

Supportive of the diagnosis:

- (1) sleep disturbance for age
- (2) a biological parent or sibling has definite RLS
- (3) the child has a PLMS index of $\geq 5/h$ on polysomnography

For pediatric and adult RLS: The condition is not better explained by another current sleep disorder, medical or neurological disorder, mental disorder, medication use, or substance use disorder.



Sleep Medicine 3 (2002) 93–98

**SLEEP
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www.elsevier.com/locate/sleep

Review article

Is there a subpopulation of children with growing pains who really have Restless Legs Syndrome? A review of the literature

Arthur S. Walters^{a,b,c,*}

So, having rejected the idea that all of 'growing pains' are due to RLS, the question now becomes one of determining whether there is a *subset* of children with 'growing pains' who experience symptoms compatible with the diagnosis of RLS. There is some evidence that this might be the case.

RLS [1,19]. On the other hand Brenning noted that the majority of children with 'growing pains' do not get up to pace the floor to get rid of their leg discomfort as is true of RLS [21].

There are associations between abdominal pain, migraine headache, and 'growing pains' [16–18]. Such relationships are yet to be explored in RLS.

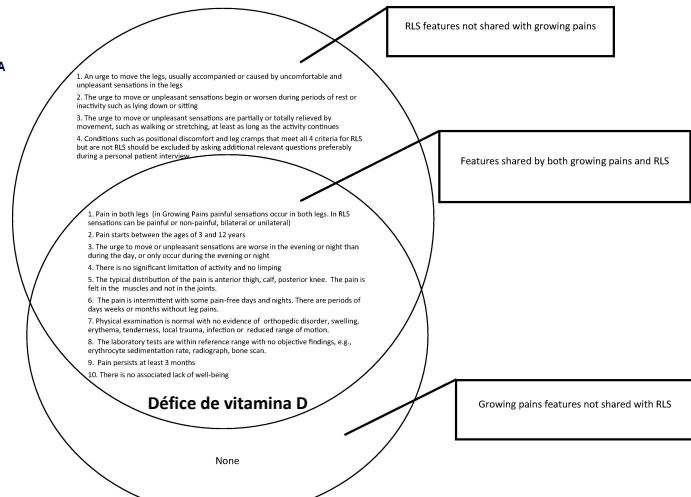
Etiopatogenia

- Desconhecida
- Associação com Síndrome Pernas Inquietas ? (local do desconforto / perturbação do sono / associação familiar)

Sleep Med. 2013 Dec 14(12):1247-52. doi: 10.1016/j.sleep.2013.07.013. Epub 2013 Sep 26.

Restless legs syndrome (Willis-Ekbom disease) and growing pains: are they the same thing? A side-by-side comparison of the diagnostic criteria for both and recommendations for future research.

Walters AS¹, Gabelle D, Frauscher B



Clínica das crises dolorosas

- Dores de **início súbito** (intensidade $\geq 7/10$);
- Localizadas aos membros inferiores (face anterior e posterior das coxas e pernas, “*joelhos*” e dorso pés) geralmente bilaterais, mas **sem envolvimento articular**;
- **Localização mal definida** (“dores internas” / “profundas” de localização e limites imprecisos). Não aponta mas antes desliza a palma da mão ao longo da zona dolorosa;
- Melhoram com a massagem e o calor local das zonas dolorosas;
- Sem qualquer outro sintoma ou sinal concomitante / **na manhã seguinte**, a criança está **assintomática**.

Salgado M. “Dores de crescimento”. Abordagem em consulta de pediatria da criança ao adolescente. 2015

Clínica das crises dolorosas

- **Horário:** vespertinas e/ou noturnas (primeiro 1/3 da noite acordando a criança);
- **Duração das crises:** < 2 horas (raramente superior a 30 min);
- **Número de crises:** em regra uma única crise;
- **Intervalos livres:** variável (dias, semanas ou meses);
- **Frequência das crises:** variável (> 1 por semana, > 1 por mês, nunca mais de 7 dias seguidos);
- **Mimetismo das crises** (horário, localização e padrão das dores) **característica de cada criança.**

Salgado M. "Dores de crescimento". Abordagem em consulta de pediatria da criança ao adolescente. 2015

Clínica das crises dolorosas

Formas atípicas:

- Sem envolvimento dos membros inferiores;
- Horário: diurno ou 2ª metade da noite;
- Mais que uma crise noturna;
- Crises frequentes;
- Duração da crise > 2h.

Salgado M. "Dores de crescimento". Abordagem em consulta de pediatria da criança ao adolescente. 2015

Critérios de exclusão / risco

- Idade < 3A ou > 13A;
- Acordar a criança mais do que 2 vezes por noite;
- Dores sempre unilaterais;
- Dores com localização precisa ou articulares (excepto joelhos);
- Dores contínuas (*todos os dias*) ou de duração > 2 horas;
- Queixas matinais (dor, claudicação, rigidez ou tumefação); outros sinais ou sintomas associados;
- Ausência de mimetismo / alteração das características das dores / despertadas pelo movimento ou massagem.

Salgado M. "Dores de crescimento". Abordagem em consulta de pediatria da criança ao adolescente. 2015

Questionários rastreio

The Turkish Journal of Pediatrics 2015; 57: 467-474

Original

Development of a screening tool for children's growing pains: validation, reliability control and clinical evaluation

Maria Vasilopoulou¹, Anastasios Spathis², Nikos Myriokefalitakis³, Foteni Zaferopoulou¹, Ioanna Paspali², Maria Tsolia⁴

QUESTIONNAIRE

Class:.....

Age:.....

Gender: Boy o Girl o

Body weight:.....

Height:.....

Is your child complaining of leg pain (thighs, calves, soles) at an age over 3 years?

o Yes o No o Do not know

Choose what best describes your child leg pain:

1. The pain is located:

- ☐ Inside muscle bulks (thighs, gluteal, calves, soles)
- ☐ Behind the knees
- ☐ Other/ do not remember / do not know

2. On the site of the pain:

- ☐ There is often redness or swelling
- ☐ It is very sensitive when touched
- ☐ There is limitation of movement
- ☐ There is recent injury
- ☐ Nothing is noted
- ☐ Do not remember / do not know

3. The duration of the pain is:

- ☐ Ten to 30 minutes
- ☐ 1-6 hours
- ☐ 6-12 hours
- ☐ >12 hours
- ☐ Do not remember / do not know

Dados epidemiológicos

Como são as queixas dolorosas ?

Please note as many of the following that describe the pain characteristics during the latest episode:

No Yes Don't know

4. The pain is mostly present during late afternoon or night.
5. The pain is still present next morning
6. The pain is bilateral.
7. The pain affects always the same leg.
8. The child cries due to pain.
9. The child awakes at night because of pain.
10. The child is otherwise well.
11. The pain resolves spontaneously or with massage of the affected area.
12. The pain subsides after taking an analgesic.
13. The pain is persistent and doesn't resolve.
14. The child has been complaining of pain on other sites for more than three months.

Critérios de exclusão ?

In your opinion the pain relates to:

15. Athletic activities.
16. The weather.
17. Vigorous physical activity.
18. Rapid physical growth.
19. The type of shoes.
20. Flatfoot (flat foot).
21. Emotional stress.
22. Particular joint flexibility.
23. Do you think that the pain is related to anything else?
24. Have you visited your pediatrician with the complaint of leg pains?
25. Has the child had any laboratory tests for the assessment of the pain?
26. Has your pediatrician referred to the pain as growing pains?
27. Have you or the other parent had leg pains during your childhood / adolescence?

Motivo possível para as queixas ?

Orientação e terapêutica

• Crises típicas

investigação laboratorial ou imagiológica desnecessária
dosear vitamina D

J Bone Miner Metab, 2015 Mar;33(2):201-6. doi: 10.1007/s00774-014-0579-5. Epub 2014 Mar 15.

Significant association among growing pains, vitamin D supplementation, and bone mineral status: results from a pilot cohort study.

Morandi G¹, Maines E, Piona C, Monti E, Sandri M, Gaudino R, Boner A, Antoniazzi F.

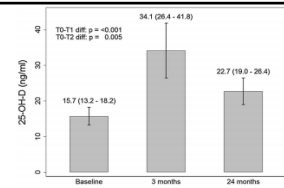


Fig. 1 Vitamin D mean levels in ng/ml (with 95 % confidence intervals) at the baseline, after 3 months, and after 24 months

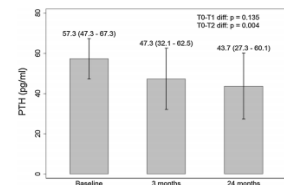


Fig. 2 PTH mean levels in pg/ml (with 95 % confidence intervals) at the baseline, after 3 months, and after 24 months

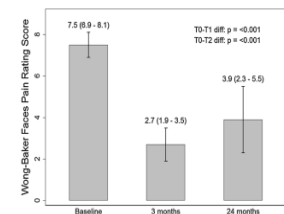


Fig. 3 Mean scores of the Wong-Baker Faces Pain Rating Scale (with 95 % confidence intervals) at the baseline, after 3 months, and after 24 months

Orientação e terapêutica

• Crises atípicas ou presença de critérios de exclusão

Hemograma, VS, Radiografia membros, Cintigrama ósseo

Box 1 Selective causes of childhood limb pain other than growing pains.

Rheumatologic

- Juvenile idiopathic arthritis
- Reactive arthritis
- Rheumatic fever
- Inflammatory-bowel-disease-associated arthritis
- Systemic lupus erythematosus
- Dermatomyositis, polymyositis or scleroderma
- Vasculitis

Infection

- Cellulitis
- Lyme disease
- Osteomyelitis
- Septic arthritis
- Soft-tissue abscess

Trauma (acute and chronic)

- Accidental fracture
- Joint strain or sprain
- Nonaccidental trauma
- Myositis ossificans

Neoplasm

- Leukemia
- Neuroblastoma
- Osteoid osteoma
- Osteogenic sarcoma
- Ewing's sarcoma
- Osteochondroma
- Aneurysmal bone cyst
- Pigmented villonodular synovitis
- Soft-tissue sarcoma

Congenital or mechanical

- Benign hypermobility syndrome
- Patellofemoral syndrome
- Hip dysplasia
- Tarsal coalition
- Accessory tarsal ossicle

Noninflammatory pain syndromes

- Fibromyalgia
- Reflex sympathetic dystrophy
- Restless legs syndrome
- Somatization disorder
- Malingering
- School avoidance

Developmental

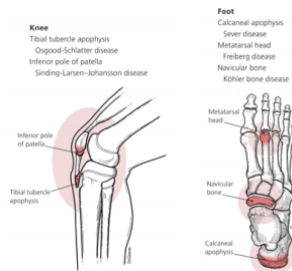
- Osgood-Schlatter disease
- Sever's disease
- Slipped capital femoral epiphysis

Vascular-related

- Legg-Calvé-Perthes disease
- Sickle-cell crisis
- Hemophilia with hemarthrosis

Osteochondrosis: Common Causes of Pain in Growing Bones

ALFRED ATANDA, JR., MD; SUKEN A. SHAH, MD; and KATHLEEN O'BRIEN, MD, Alfred I. DuPont Hospital for Children, Wilmington, Delaware
Am Fam Physician. 2011 Feb 1;83(3):285-291.



Orientação e terapêutica

- Se possibilidade de associação com síndrome de pernas inquietas

dosear ferritina e/ou cinética ferro

dosear vitamina D

estudo polissonográfico sono

Acta Neurol Belg, 2015 Dec 115(4): 623-7. doi: 10.1007/s13760-015-0474-4. Epub 2015 Apr 23.

An evaluation of sleep quality and the prevalence of restless leg syndrome in vitamin D deficiency.

Cakir T¹, Doğan G², Subaşı V³, Filiz M², Ülker N⁴, Doğan SK², Toraman NE².

Vitamina D < 20 ng/ml

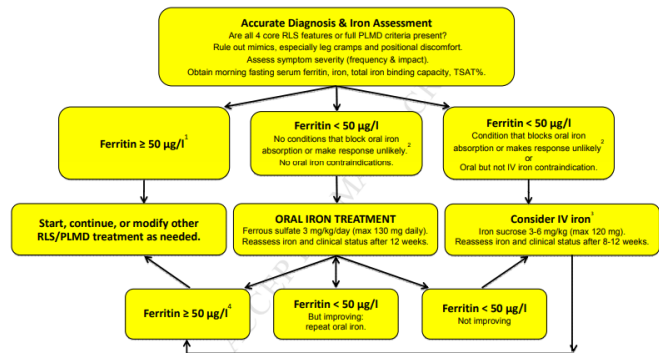
---> *compromete sistema dopaminérgico: risco de Síndrome Pernas Inquietas e Deterioração da qualidade do sono*

Sleep Med, 2018 Jan;41:27-44. doi: 10.1016/j.sleep.2017.11.1126. Epub 2017 Nov 24.

Evidence-based and consensus clinical practice guidelines for the iron treatment of restless legs syndrome/Willis-Ekbom disease in adults and children: an IRLSSG task force report.

Allen RP¹, Picchietti DL², Auerbach M³, Che YW⁴, Connor JR⁵, Earley CJ⁶, Garcia-Borjueiro D⁷, Kotagal S⁸, Mancini M⁹, Ondo W¹⁰, Ulfberg J¹¹, Winkelman JW¹²; International Restless Legs Syndrome Study Group (IRLSSG)

Figure 6: Algorithm for iron treatment of pediatric RLS/PLMD



Orientação e terapêutica

- Esclarecimento da família ("reassurance")
- Massagem / aplicação de calor nas zonas dolorosas
- Intervenção psicológica
- Fisioterapia se hipermobilidade ou síndrome de amplificação dolorosa
- Analgesia (antes de deitar ou se prevista a sua ocorrência após dia de exercício)
- Suplementação vitamínica e/ou mineral

Prognóstico

- Excelente
- Remissão espontânea na maioria após 2 a 5 anos de evolução
- Resolução antes ou durante a puberdade
- Vigilância mais regular até diagnóstico → →→ 6/6 meses (avaliar critérios de exclusão)



Obrigado pela atenção