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Assessing toddlers' legs, feet and gait

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Abstract
Parents are delighted when their infant takes independent steps and begin walking unaided. Community child health nurse can be an initial source of information to allay parent anxiety if they are concerned about their child's development. This article discusses issues around the assessment of toddlers legs, feet and gait that are relevant for community based nurses to consider when evaluating if toddlers are developing appropriately for age or if there is some variation that should be assessed further by a podiatrist or a physiotherapist or physician.
The paper reviews normal foot and leg development in addition to common leg and foot pathologies. Observation of toddler gait and variations such as in-toeing, out-toeing, toe walking, footwear, ingrown toenails, and foot or leg pain are then reviewed. The focus in the article is knowing what is normal, identifying variations and recognising when referrals for further investigation or assessment are indicated.

Keywords: Toddler, feet, gait, assessment, referral

Introduction
Parents are quite excited when their infant begins walking. However, when parents have concerns about their child's walking being delayed or viewed as abnormal they can be anxious [1]. Due to the role that community child health nurses play in monitoring children's development they are often the first point of contact for parents with concerns about their children, including their legs, feet or gait [2]. This discussion paper will provide community child health nurses such as maternal and child health nurses or health visitors with the information to understand normal lower limb development and identify areas of concern. It is intended to provide an introductory overview of lower limb and gait assessment for nurses who may not have an extensive background in anatomy or biomechanics. Furthermore, the information can be used as a framework for when to take a "wait and see" approach or when to refer for further medical opinion or investigation. Through using this information paediatric and community-based child health nurses will be able to acknowledge and allay parents' concerns by providing appropriate information, management options and referrals based upon current empirical research.
An initial literature search included child health nursing and podiatry journals using the key words of toddler feet, legs and gait. As this is not a systematic literature review but a general discussion educational paper for nurses, both peer reviewed descriptive and research articles were included in our paper.

The specific questions examined in this paper are:
1. What is considered normal in terms of toddlers' legs, feet, and gait?
2. What are common variations from normal in toddlers' legs, feet, and gait?
3. What are best practice management strategies for variations from normal in the legs, feet, and gait of toddlers,

Common lower-limb problems facing children include; pes planus (flatfeet), ingrown toe nails, genu varum (bow legs), genu valgum (knock knees), metatarsus adductus, vertical talus, and talipes equinovarus (club foot) [3]. Common gait problems include toe walking, in-toeing, out-toeing, limping, and excess tripping or falling [4]. Conditions such as talipes equinovarus will usually be diagnosed at birth or highlighted for follow-up during newborn health checks. However, practitioners should be aware that these conditions may sometimes be missed during newborn screening especially if patients have immigrated from countries without stringent newborn checks or where medical services are inconsistent such as when

treating refugee populations. Other concerns may present over time as the child develops.

Normal Foot Development

Before considering foot conditions it is important to understand normal foot development. When children are born their foot will look normal with all toes present however, not all their bones are fully developed and ossified [5, 6]. Bones begin as fibrous or cartilaginous models before beginning to ossify from primary or secondary ossification centres depending on the bone [5, 6]. Ossification of tubular bones begins in the central diaphysis with secondary centres appearing later in the epiphysis [5, 6]. Epiphyses will remain open until growth stops; for many bones this means that they can stay open until age 18 [6].

At birth children are born with a calcaneus, talus, cuboid, 5 metatarsals and all the phalanges except the 5th intermediate and distal phalanges [5, 6]. The remaining bones will ossify over several years with the navicular bone not ossifying until 3-5 years of age. Practically this means that young children's feet are highly flexible with a significantly different structure and shape to adult feet [7].

Assessment

Assessment begins from the moment the toddler, parent and/or caregiver arrive, with initial observation of general movement. The nurse will observe how they move, for example toddling, walking steadily, running, or moving with an observable variation to normal [8].

As with other assessment, any concern with a child's feet and ankles should begin with a thorough case history [4]. This should include: date of onset, duration, progression, symmetry, pain on rest or with activity, weakness or limp, full medical history including any abnormal birthing events, family history and any previous treatments [1]. Then the legs, feet and gait should be systematically examined.

Visual Inspection

Firstly, a visual inspection should be performed with the child in both weightbearing and non-weightbearing positions [3]. When in a non-weightbearing position the feet, ankles and toes should all be in an anatomically correct position. The feet should point in the same direction as the knees without any inversion or eversion of the ankle midfoot joints. The toes should all point straight ahead without any flexion, retraction or rotation [8]. The arch profile can also be assessed, remembering that young children may not have a visible arch until up to ten years of age [9]. If any abnormalities are noted the child should be referred for medical review or specialist assessment by a paediatric physiotherapist or podiatrist.

When weight bearing the child should be standing on a flat surface. The feet should be in a single plane with the heel, balls of foot and toes all in contact with the ground. The weight bearing position of the feet, ankles and toes should be compared to the non-weight bearing position. Any change in position between non-weight bearing and weight bearing should be noted and may require further assessment [10].

The degree of rear foot eversion and/or forefoot deviation should also be noted [11]. For the purposes of initial screening both rearfoot eversion and abduction of the forefoot can be identified by visually inspecting the feet while standing directly behind the child [11]. Rearfoot eversion is noted when the posterior heel appears to be "rolling inwards." Forefoot deviation is identified by comparing the rearfoot and forefoot positions in relation to each other. A neutral forefoot will be visible equally either side of the heel when viewed from behind the child. Whereas an abducted forefoot will have more of the toes are visible on the lateral side and an adducted forefoot will have more toes visible on the medial side [11].

Normal Leg Development

Toddlers' legs are shaped differently to adults, which can be concerning for parents. It is common for a toddler's legs to be either 'bow' shaped or 'knock kneed' [12]. Bow legs (genu varum) are named like this as the outer part of the legs seem curved, resembling a bow. This can be either mild, moderate or severe. Very rare issues that may cause genu varum include skeletal dysplasias and rickets. However, bow legs are a normal condition until the child is 2.5 to 3 years old [8]. Harding *et al*. (2021) advise it is a normal developmental stage that usually resolves over time without intervention. Reassurance that this is part of usual development is usually all that is required. Concerns would be present in circumstances where bow legs were very excessive, asymmetrical, and not improving over time [4]. In these situations, referral to a General Practitioner, paediatric physiotherapist or podiatrist would be required.

'Knock knees' (genu valgum) describes the presentation where the child's knees are angled (slightly) inwards [13]. This is the opposite to the appearance of bow legs. Genu valgum should be assessed when the child is standing. It is considered present when the medial malleoli (most medial portion of the ankle joints) are more than 2.5 cm space apart when the child's knees are together [8]. Knock knees are considered to be developmentally normal from 3-8 years of age [14]. Similar to bowlegs, this condition may range in severity.

This normal developmental stage usually resolves overtime without intervention as the lower extremities rotate during middle childhood [8]. Less than 1% of children with knock knees or bow legs have an underlying issue and rare causes are trauma or rickets [14]. While rickets is rare in western countries it can be common in refugee populations and related to dark skin pigmentation, sun avoidance, covering the skin, and prolonged breast feeding without vitamin D supplementation among these groups [15]. Again, reassurance to the parents that it is part of usual development is usually all that is required. Resolution of this can be monitored by serial measurement of the distance between the medial malleoli when the legs /knees are together [13]. Concerns would be present in situations where it was very excessive or one sided [4]. In these situations, referral to a General Practitioner, paediatric physiotherapist or podiatrist would be required.

Feet

Congenital Foot Conditions

More common congenital foot conditions are club feet, syndactyly and polydactyly. Club feet, known medically as talipes equinovarus is usually identified at birth and managed medically with castings, or if required, with surgery [14]. For child health nurses, care for families involves supporting parents through attending frequent medical appointments, serial castings and care of the child's limb in a cast to avoid pressure areas. Promoting and

optimizing child social, emotional and physical development despite limitations of mobility, is a key area of practice. Other foot conditions may include webbed toes, (syndactyly) or additional toes (polydactyly) which are also usually identified in the newborn period and managed medically [14].

Flat Feet

Toddler's feet are typically chubby and appear to be 'flat'. The bones within the feet do not fully ossify until 12-14 years of age [16], and it is considered normal for children to not develop a visible arch until 5 or 6 years of age and sometimes as late as 10 years old [8]. Toddlers have additional fat pads that support their movement until the boney arch is developed [17]. This is the reason why they appear to be flat on the underside / sole. The arch can, however, be observed if the child lifts their heel off the ground and takes weight on the ball of their foot [13]. It can be helpful to demonstrate this with parents. The appearance of 'flat feet' in toddlers is another development phase that almost always resolves spontaneously as they grow. Referral to a podiatrist or paediatric physiotherapist for further assessment would only be indicated if the condition persisted beyond the age of 8-10 years or it was associated with pain at any age. While toddler's feet appear flat, they should be quite flexible and mobile without any obvious restriction in movements in any of joints within the ankle, foot or toes [13].

However, flat feet that are rigid are normally caused by structural abnormalities with the most common being tarsal coalition, vertical talus or peroneal spastic flatfoot [3]. These are all serious conditions that require specialist referral to prevent complications [3]. Additionally, flexible flat-feet that are associated with pain, gait abnormalities or failure to meet milestones should also be referred for further assessment.

A physical assessment should be performed to determine if it is a structural or flexible flatfoot. While moving joints through range of motion (ROM) make a note of soft or hard endpoints as this can indicate soft tissue or bony restrictions. The child should also be assessed for generalised hypermobility using the Beighton's criteria [7].

Ankle joint

An ankle range of motion assessment is performed by holding the lower leg steady with one hand and placing the other hand on the sole of the foot. The ankle can then be moved through a full dorsiflexion (bending the ankle so the foot moves upwards towards the head) and plantarflexion (bending the ankle downwards so that the foot and toes 'point" towards the ground) range. When at the end of the range of motion make a note of soft or hard endpoints as this can indicate soft tissue or bony restrictions [18]. The ankle should dorsiflex at least 10-15 degrees past neutral or standing position to be considered normal [19]. Less than 10-15 degrees of dorsiflexion with a hard endpoint could indicate a structural abnormality and should be referred for a medical review.

Subtalar joint

The subtalar joint is immediately inferior to the ankle joint and is responsible for inversion (bending inwards) and eversion (bending outwards) of the foot. Accurate measurement during screening isn't required but normal subtalar joint (STJ) ROM should expect 2:1 ratio of inversion to eversion (20). However, for the purposes of screening the foot should be able to bend inwards and outwards without restriction. Restricted ROM may indicate a tarsal coalition which occurs when two or more tarsal or hindfoot bones fuse together and will require specialist referral [13].

1st Metatarsal pharyngeal joint

Lastly ROM of the 1st metatarsal pharyngeal joint, (MTPJ) or big toe, should be assessed for any restrictions. Exact measurements aren't required for screening purposes, just make a note of any restrictions**.** Additionally, the toes should also be assessed for any restrictions in ROM or abnormal angulation such as bunion joints [11].

Gait

Typically developing children begin walking between 9 and 18 months. Toddlers beginning to walk have a different gait pattern to a standard adult gait [1]. Toddlers generally walk with a wider base of stance, shorter stride length and reduced time in single leg stance support [21]. Children begin to slowly develop a more standard "adult" style gait that includes a heel strike, arm swing and truncal / body rotation between the ages of 3-5 years [22]. By the ages of 8-10 years children's gait is almost identical to that of adults [21].

Function

Initially, first steps are tentative, with arms held out wide to enhance balance. As a toddler gains confidence in walking independently they lower their arms to their side and gain speed in their walking. It is quite usual for the newly walking toddler to have regular falls and tumbles as they progress from tentative steps to running freely outside. During the early stages of walking, toddlers have a gait pattern that features abduction and external rotation of the hips, flexed hips and knees and pronated ankles [4].

Complex gait assessment is not essential for screening purposes; however observation of gait is very important [4]. Any abnormal gait patterns should be noted. Abnormalities to be aware of include; antalgic gait (due to pain), circumduction of the leg from the hip, excessive hip abduction, stiff, foot dragging with foot inversion, in-toeing or out-toeing, toe-walking, increased hip and knee flexion (stepping gait) [13]. Where variations from normal are symmetrical or if the unusual gait pattern normalises with prompting there is less suspicion of underlying pathology [4]. However, where there is asymmetry, pain restricts movement, there is loss of function or abnormal developmental progress then further assessment and /or referral for investigation is recommended [4]. Formal musculoskeletal and gait assessment tools including pGALS (paediatric Gait Arms Legs Spine) and GALLOP (gait and lower limb observation of paediatrics) may be utilised as frameworks when performing musculoskeletal assessments however these should be used with caution as they were developed for use by health professionals with advanced musculoskeletal training such as general physicians, physiotherapists and podiatrists [23, 24].

In-toeing and Out- toeing

In-toeing describes a foot that appears twisted so the toes point inwards [25]. In contrast, out-toeing characterises a foot where there is a twist in the opposite direction, so that the

toes point outwards [25]. Any abnormalities during gait should be noted and referred for a more thorough assessment by a general practitioner, paediatric physiotherapist or podiatrist. Limping in children can indicate a serious underlying condition and should be treated with urgency. In-toeing is common in young children and can be caused by several conditions, most commonly metatarsus adductus, internal tibial torsion, femoral anteversion or a combination of these [1].

Metatarsus adductus is often caused by positioning and constriction of the foetus in utero and gives the foot a kidney bean shape [26]. This foot deformity is present at birth and can cause in-toeing in the infant and toddler [1]. This is most commonly identified in infants younger than 12 months but more subtle deformities may not be identified until later when parents present concerned about their child in-toeing [4, 26].

Tibial torsion is a common cause of in-toeing in toddlers. It may or may not present with metatarsus adductus. In tibial torsion the tibia is rotated inward [1, 26]. Previously tibial torsion was treated with special shoes, bars and casts however these are no longer indicated as most cases resolve spontaneously as the toddler weight bears, grows and refines their skill with walking [1]. It usually resolves by approximately 4 years of age [26].

Femoral anteversion can be another cause of in-toeing and may co-exist with torsion of the tibia [1]. This is caused by an excessive torsion on the femur near the hip, which forces it to turn inward [1]. Femoral anteversion is the most common cause of in-toeing in toddlers over 3 years of age but may present anywhere between 2 and 4 years of age [1]. This condition is more common in girls than boys and is usually symmetrical [1].

Toe Walking

When toddlers first begin walking they usually begin cruising along furniture on their toes but shift to a flat-foot position when they stand still [25]. Gait patterns are dependent on neuromuscular maturation [27]. Most children adopt a typical adult heel-to-toe gait pattern by the age of 3 years [25]. Assessment focuses on distinguishing idiopathic toe walking from a possible progressive disorder [25].

When the feet are symmetrical and there is an absence of neurological indicators there is low concern in regard to toe walking. Children with idiopathic toe walking usually assume a normal walking pattern spontaneously. Where a toe walking gait pattern persists after the age of 2 years further assessment by a GP, paediatric physiotherapist or podiatrist should be considered [4].

Persistent pathological toe walking is most commonly due to mild cerebral palsy [25], and autism spectrum disorder [4, 25]. Children who have been walking heel to toes and develop toe walking later require medical assessment for neuromuscular conditions such as muscular dystrophy [4]. Occasionally, achilles contractures are identified in children with idiopathic toe walking [4].

Footwear

There is often some uncertainty about the optimum time to introduce shoes to infants as they become toddlers [28]. Information ranges from introducing shoes once they are walking, or encouraging barefoot walking for a period of time to allow the child to develop their balance [28]. The literature is not definitive about when to commence toddlers in shoes, but footwear is required for protection of the feet in certain circumstances such as walking outside. There is a deficit in the literature of evidence based information about how footwear flexibility impacts on the developing foot and leg, however the evidence shows that footwear changes children and toddlers walking patterns [29].

Despite the lack of definitive evidence, it seems reasonable to recommend that footwear for early walkers and toddlers should be light and flexible with enough room around the toes for the forefoot to spread fully while the child is walking. These parameters should allow the foot to be protected while minimising the impact on the child's lower limb development and gait. Furthermore, because of the demonstrated impact of footwear on children's gait it seems to be safe to recommend that toddlers should be encouraged to spend time barefoot when safe to do so [29, 30].

Ingrown Toenails

Ingrown toenails can be common in children [31]. For toddlers tight shoes or socks and incorrect technique for nail cutting can contribute to this [32]. Toddlers can also be curious about their feet and may have picked and pulled at longer nails [33].

Similar to older children, an ingrown toenail may present as red, tender and swollen [32]. For mild ingrown toenails care at home would involve soaking the foot in warm soapy water for up to 10 mins, 2-3 times in the day to keep the area clean and the nails flexible [32]. When the nail is softened it may be gently lifted away from the side of the toe [31]. If the nail has become infected there may be discharge or a blister at the side of the nail [31]. If there are any signs of infection then a topical antiseptic should be applied [31]. If the redness or infection increases then the child should be reviewed by a General Practitioner or podiatrist [31].

Families can be advised to minimise ingrown toenails by actions such as cutting toenails straight across (not rounded), not cutting the nails too short [31], and teaching toddlers not to pull at their toenails [33]. Conservative treatment for ingrown toenails is preferred and is managed by GPs or podiatrists [31]. If this is unsatisfactory then surgical management is indicated [31].

Foot or Leg Pain

The presence of pain in a child's foot or leg should be carefully assessed. For children presenting with a limp, pain is a key feature in approximately 80% of cases [22]. Evaluation of the pain begins with careful history and general observation of the child's behaviour. Assessment of the child's foot or leg and observations of their gait provide key information and includes inspection, palpation, review of symmetry, range of movement and muscle strength (8). Foot or leg pain in a toddler may be caused by diverse conditions such as immunisation, leg length discrepancy, fracture, hand-foot-and mouth disease, an underlying rheumatological disease and accidental or non-accidental injury [22].

Night-time bone pain may be simply "growing pain" however it may indicate the presence of an underlying systemic disease or malignancy and should be investigated with a thorough history and examination [34]. If the history elicits any associated reduced activity, slowed growth, fever, loss of appetite/ anorexia, night sweats or weight loss the child should be referred with urgency to their medical practitioner for review [34].

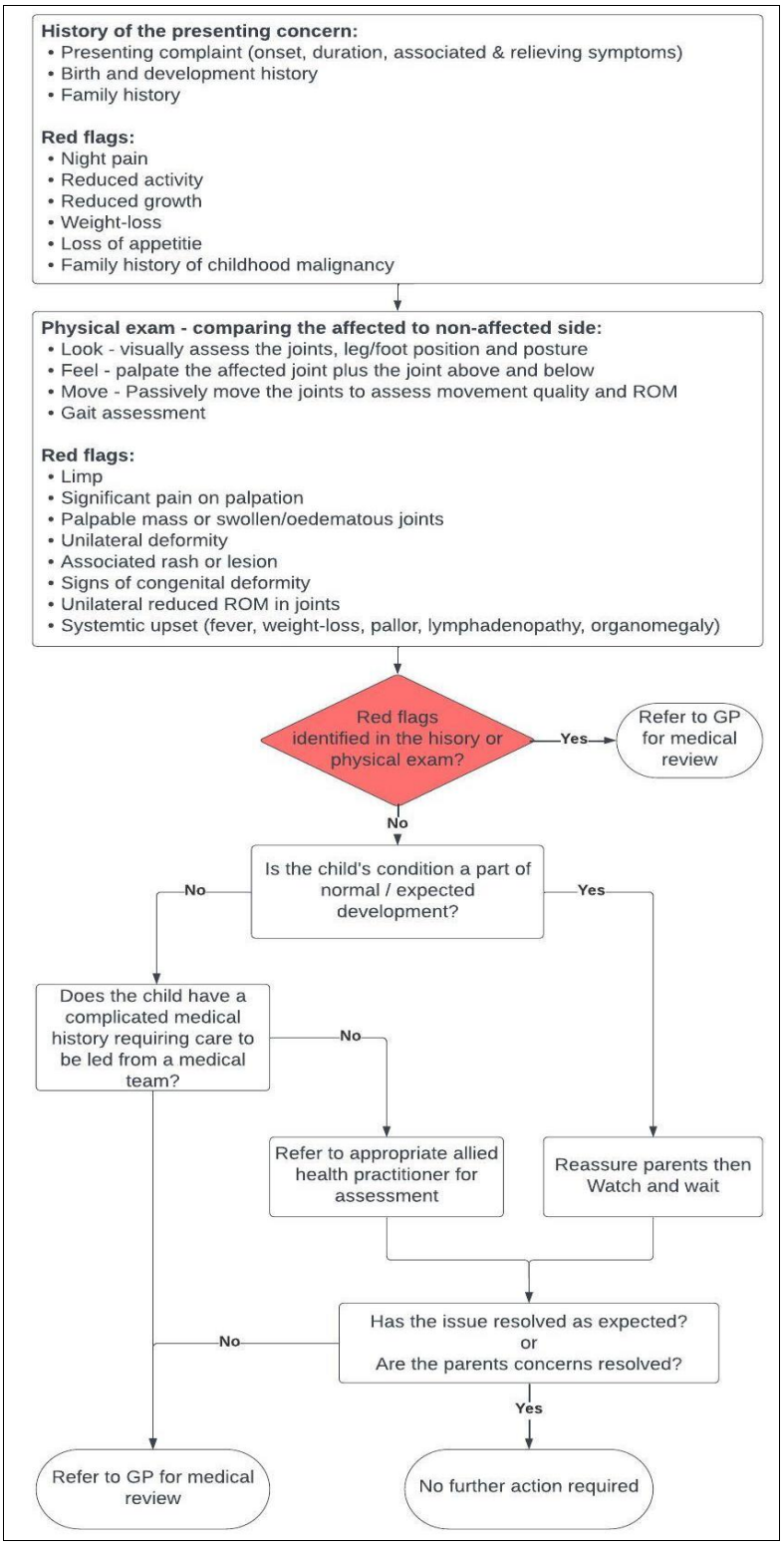
Referrals

In accordance with nursing standards, toddlers presenting with any anomalies of the foot or leg should be referred for further assessment [35]. The only exception would be the most simplest conditions such as a blister or splinter (35). Referral may be to either a general practitioner, paediatric physiotherapist or podiatrist, depending on the allied health services available in local area.

When referring a child for further assessment with allied health practitioners this information should be forwarded to the child's general practitioner (GP). This ensures the GP remains at the centre of the healthcare team and is aware of any the medical concerns and treatments relating to the child.

The referral should include the presenting complaint or concern, a full medical history including previous treatments and a summary of the visual and physical assessments performed highlighting and abnormalities identified [36]. A detailed referral not only saves time for the treating clinician but also allows for easier and more accurate triaging of patients. This is especially important if referring the child to a public health service as they can have long waiting lists and may not accept referrals with incomplete information.

(Insert Figure 1_ Assessing and responding to concerns about children's legs, feet and gait Decision tree).



Conclusion

Many parents have concerns about the growth and development of their children. One area of concern can be the development of their child's independent mobility. This is complicated by the fact that children's legs, feet, and gait go through several rapid phases of development and appear visually different from those of adults. Use of the assessments described in this article will assist in the evaluation of children's legs, feet and gait so that community child health nurses can confidently allay parents concerns or where appropriate, refer the child for specialist assessment and treatment at an early stage.

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Conflict of Interest

The authors declare no conflict of interest.

References

1. Merens T. The toddler gait normal or not. Pediatric Annals. 2015;44(5):187-90.
2. Ridgway L, Hackworth N, Nicholson JM, McKenna L. Working with families: A systematic scoping review of family-centred care in universal, community-based maternal, child, and family health services. Journal of Child Health Care. 2020;25(2):268-89.
3. Evans A. Mitigating clinician and community concerns about children's flatfeet, intoeing gait, knock knees or bow legs. Journal of Paediatrics and Child Health. 2017;53(11):1050-3.
4. Cao LA, Wimberly L. When to be concerned about abnormal gait: Toe walking, in-toeing, out-toeing, bowlegs, and knock-knees. Pediatric Annals. 2022;51(9):e340-e5.
5. Beatriz G, Elena E, M L, Andrés S, José Antonio S, Juan Antonio D. Age estimation based on a radiographic study of the growing foot. Journal of the American Podiatric Medical Association. 2017;107(2):106-11.
6. Whitaker J, Rousseau L, Williams T, Rowan R, Hartwig W. Scoring system for estimating age in the foot skeleton. American Journal of Physical Anthropology. 2002;118(4):385.
7. Evans A, Rome K. A Cochrane review of the evidence for non-surgical interventions for flexible pediatric flat feet. European Journal of Physical and Rehabilitation Medicine. 2011;47(1):69-89.
8. Duderstadt K, Keeton V. Pediatric Physical Examination: An Illustrated Handbook. 4th ed. St. Louis, Missouri: Elsevier; 2024.
9. Uden H, Scharfbillig R, Causby R. The typically developing paediatric foot: how flat should it be? A systematic review. Journal of Foot and Ankle Research. 2017;10(1):37.
10. Honig EL, Haeberle HS, Kehoe CM, Dodwell ER. Pediatric orthopedic mythbusters: The truth about flexible flatfeet, tibial and femoral torsion, W-sitting, and idiopathic toe-walking. Current Opinion in Pediatrics. 2021;33(1):105-13.
11. Turner C, Gardiner M, Midgley A, Stefanis A. A guide to the management of paediatric pes planus. Australian Journal for General Practitioners. 2020;49:245-9.
12. Dettling S, Weiner DS. Management of bow legs in children: A primary care protocol. Journal of Family Practice. 2017;66(5):E1-E6.
13. Yeo A, James K, Ramachandran M. Normal lower limb variants in children. BMJ: British Medical Journal. 2015;351:.
14. Harding K, Mason D, Efron D. Paediatric handbook. 10th ed. Hoboken, NJ: Wiley Blackwell; 2021.
15. VanPutte C, Regan J, Russo A, Seeley R, Stephens T, Tate P, *et al*. Seeley's Anatomy & Physiology. 10th ed. New York, New York: McGraw-Hill; 2014.
16. Christman RA. Radiology of the pediatric foot and ankle. In: Butterworth ML, Marcoux JT, editors. The Pediatric Foot and Ankle: Diagnosis and Management. Cham: Springer International Publishing; 2020. p. 43-75.
17. Bertsch C, Unger H, Winkelmann W, Rosenbaum D. Evaluation of early walking patterns from plantar pressure distribution measurements. First-year results of 42 children. Gait & Posture. 2004;19(3):235-42.
18. Mattes J, Ross B. The paediatric history and examination. In: Talley N, O'Conner S, editors. Talley & O'Connor's Clinical Examination. 10th ed. Chatswood, NSW: Elsevier Australia; 2022. p. 641-718.
19. Halabchi F, Mazaheri R, Mirshahi M, Abbasian L. Pediatric flexible flatfoot; clinical aspects and algorithmic approach. Iranian Journal of Pediatrics. 2013;23(3):247-60.
20. Krähenbühl N, Horn-Lang T, Hintermann B, Knupp M. The subtalar joint: A complex mechanism. EFORT Open Reviews. 2017;2(7):309-16.
21. Guo G, Guffey K, Chen W, Pergami P. Classification of normal and pathological gait in young children based on foot pressure data. Neuroinformatics. 2017;15(1):13-24.
22. Morancie NA, Helton MR. Evaluating the child with a limp. American Family Physician. 2023;107(5):474-85.
23. Cranage S, Banwell H, Williams CM. Gait and Lower Limb Observation of Paediatrics (GALLOP): Development of a consensus-based paediatric podiatry and physiotherapy standardised recording proforma. Journal of Foot and Ankle Research. 2016;9(1):8.
24. Foster HE, Jandial S. pGALS – paediatric Gait Arms Legs and Spine: a simple examination of the musculoskeletal system. Pediatric Rheumatology. 2013;11(1):44.
25. Jacobs B. Toe walking, flat feet and bow legs, in-toeing and out-toeing. Paediatrics and Child Health. 2010;20(5):221-4.
26. Butterworth M, Marcoux J. The Pediatric Foot and Ankle: Diagnosis and Management. Cham: Springer International Publishing; 2020.

27. Liu W, Mei Q, Yu P, Gao Z, Hu Q, Fekete G, *et al*. Biomechanical characteristics of the typically developing toddler gait: A narrative review. Children. 2022;9(3):406.
28. Morrison SC, Price C, McClymont J, Nester C. Big issues for small feet: Developmental, biomechanical and clinical narratives on children's footwear. Journal of Foot and Ankle Research. 2018;11(1):39.
29. Williams CM, Morrison SC, Paterson K, Gobbi K, Burton S, Hill M, *et al*. Young children's footwear taxonomy: An international Delphi survey of parents, health and footwear industry professionals. PLOS ONE. 2022;17(6):e0269223.
30. Gimunová M, Kolářová K, Vodicka T, Bozděch M, Zvonar M. How barefoot and conventional shoes affect the foot and gait characteristics in toddlers. PLOS ONE. 2022;17:.
31. Bryant A, Knox A. Ingrown toenails: The role of the GP. Australian Family Physician. 2015;44(3):102-5.
32. Smith RJ, Rubin AI. Pediatric nail disorders: A review. Current Opinion in Pediatrics. 2020;32(4):506-15.
33. Buckley D. Nail problems in general practice. In: Textbook of Primary Care Dermatology. 2021. p. 361-9.
34. Oostinga D, Steverink JG, van Wijck AJM, Verlaan J-J. An understanding of bone pain: A narrative review. Bone. 2020;134:115272.
35. Grant J, Mitchell C, Cuthbertson L. National Standards of Practice for Maternal Child and Family Health Nursing Practice in Australia. 2017.
36. Victorian MCH Nurse Coordinators Group, Victorian Association of MCH Nurses (VAMCHN), Australian Nursing & Midwifery Federation (Vic Branch). Documentation Standards for Maternal & Child Health Nurses in Victoria. 2016.

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