HAUTE AUTORITÉ DE SANTÉ

Clinical practice guidelines

Foot problems in the elderly: podiatric assessment and management

July 2005

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Synopsis

Title	Foot problems in the elderly: podiatric assessment and management
Publication date	July 2005
Requested by	Association nationale de recherche et d'évaluation en pédicurie-podologie (French National Association for Podiatry Research and Assessment)
Produced by	*Haute Autorité de santé* (HAS) - Guidelines Department
Intended for	Professionals who manage foot problems in the elderly: - Main target : podiatrists and general practitioners; - Other: specialists (podiatric physicians, specialists in vascular medicine, diabetologists, specialists in physical and rehabilitation medicine, rheumatologists), surgeons (specialising in vascular or orthopaedic surgery), nurses and physiotherapists
Objectives	- establish assessment criteria and identify risk factors - recommend appropriate treatment - establish criteria for proper patient referral - provide a shared patient record
Assessment method	- Systematic review of the literature - Discussion among members of an *ad hoc* working group - External validation by peer reviewers
Literature search	Period: 1985-2005
ANAES project leader	Joëlle André-Vert (Head of Dept: Patrice Dosquet MD) (Literature search: Emmanuelle Blondet with the help of Laurence Frigère (Head of Dept: Rabia Bazi, then Frédérique Pagès); secretarial services: Isabelle Le Puil)
Authors of report	Marie-Claude Autrusson, podiatrist, Paris Annette Nabères, podiatrist, Paris
Collaborations and participants (annex 1)	- Learned societies - Steering committee - Working group (Chair: Professor Claude Jeandel, geriatrician, Montpellier) - Peer reviewers
Internal validation	Validated by the Committee for Practice Guidelines and Practice Improvement in July 2005
Related publications	The full report (in French) on which these guidelines are based is on the HAS website (www.has-sante.fr): - *Dossier en pédicurie-podologie* – (Patient record in podiatry – Guidelines [In French]) -- ANAES 2001 - Physiotherapy for preserving motor function in frail elderly people living at home, HAS, April 2005

Contents

I Scope of the guidelines

These guidelines address the assessment of foot problems in elderly subjects and their management by a podiatrist[1]. They do not cover treatment for specific causal factors (diabetes, rheumatoid arthritis, onychomycosis). Their aim is to:

- establish clinical assessment criteria to identify symptoms of foot problems and identify risk factors that need a specialist opinion or treatment;
- recommend appropriate podiatry treatments, following assessment of their efficacy and effect on autonomy in the elderly, in particular on standing balance and walking;
- establish criteria for patient referral to the most appropriate health professional;
- provide a shared record to encourage communication with the patient and between the health professionals treating the foot problem.

Elderly people are all different; they may be in good health, vulnerable, or bedridden. Although functional autonomy is not directly related to age, the scope of these guidelines has been limited to individuals aged 75 or over who can walk or stand upright.

II Assessment method

The guidelines were produced using the method described in Annex 2:

- a critical appraisal of the literature published from 1985 to 2005.
- discussions within a multidisciplinary working group (4 meetings)
- comments by peer reviewers.

They were graded on the basis of the strength of the evidence of the supporting studies (Annex 2). In the absence of scientific evidence, they are based on agreement among professionals obtained at the end of a formal voting procedure. All the present guidelines had a median score of 7 or over (out of 9) given by more than 70% of the professionals involved. Absence of level of evidence does not mean that the guidelines are not relevant and useful, but does mean that further studies should be carried out whenever possible.

III Identifying foot problems in elderly subjects

Doctors should carry out a careful clinical examination of the feet of all elderly subjects at least once a year, during a regular appointment, for the following reasons:

- the prevalence of foot-related symptoms and foot problems is high in individuals aged over 75 years who are able to walk[2] (level of evidence 2); certain foot problems may be associated with reduced functional capacity, particularly when there are painful symptoms (level of evidence 2);
- there is a high incidence of inflammation or infection of the foot and of symptoms predisposing to foot skin disorders[3] in the elderly (level of evidence 2);

[1] The French term "pédicure-podologue" has been translated as podiatrist (formerly chiropodist in the UK). However, the activities a "pédicure-podologue" may be authorised to carry out in France may not be exactly the same as those of a podiatrist in the UK or elsewhere.

[2] Prevalence of foot problems in individuals aged over 75 years who are able to walk:
- painful foot: 12%-20%;
- foot with skin lesions, circulatory problems and/or vascular disorders: foot ulcers 1-5%, ingrown toenails 7-12%, nail hypertrophy 12-30%, oedema 11-15%, hyperkeratosis 30-70%;
- foot deformity: hallux valgus 20-74%, toe deformity > 50%.

[3] Incidence within a population of median age 75 years, with no history of requiring podiatric care:
- loss of superficial sensation in the feet: 10% per year;
- arterial disease with capillary refill time at the hallux <4 seconds: 7% per year;
- moderate or severe inflammation or infection of the foot: 7% per year.

- too few patients go to see a health professional of their own accord when they have foot symptoms[4] (level of evidence 2).

The aims of the annual examination are to:

- carry out a systematic search for foot problems;
- look for factors predisposing to skin complications on the foot or to functional incapacity related to a foot problem[5];
- identify patients who have difficulty finding appropriate footwear;
- identify patients who are not able to carry out basic foot care themselves, cut their own nails or check the skin on their feet[6], particularly if there is underlying disease.

IV Clinical examination by a podiatrist

Currently in France (2005), patients may see a podiatrist with or without a doctor's referral. However, in all cases, the podiatrist should carry out a clinical examination before giving any treatment in order to:

- identify risk factors for secondary complications before giving any treatment;
- identify the foot problem and determine its causes, within their field of competence, in order to suggest a treatment strategy;
- take account of the patient's social environment and visual, cognitive and functional capacities when choosing treatment;
- always assess the functional repercussions on balance and walking;
- measure the impact of treatment by comparing clinical examination findings before and after treatment.

The items that the podiatrist should record routinely are covered by existing guidelines[7] (Annex 3). For elderly subjects, items IV.1- IV.3 should be added.

IV.1 Social and administrative information

- Record details of:
  - living and housing conditions, social and family members (carers), particularly when the person cannot carry out necessary care for themselves;
  - details of other health professionals involved with the patient.

IV.2 Medical and surgical history-taking

- Record any history of disease or symptoms to distinguish acute from chronic symptoms;
- Specify in the history and in the letter to the doctor any concomitant disease, particularly:
  - diabetes
  - neurological disorders (motor, sensory or cognitive disorders)

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[4] According to epidemiological studies, 14-40% of patients requiring podiatric treatment do not call on a health professional.

[5] Elderly patients have an increased risk of skin lesions if they have:

- arterial disease with claudication, absence of pulse (manual or Doppler) or capillary refill time after plantar pressure on the hallux >5 seconds;
- neuropathy with loss of superficial sensation (inability to detect pressure from a 10 g monofilament) (agreement among professionals);
- postural or musculoskeletal disorders (agreement among professionals);
- diabetes: grading of risk as established by international consensus in adult diabetics may be extended to elderly diabetics; this grading is based on the three factors listed above.

Patients with foot pain have a higher risk of functional incapacity, particularly when load-bearing (level of evidence 3).

[6] After the age of 75, fewer than 30% of patients living at home can still carry out such care themselves because of problems with close vision, inability to reach the feet, lack of grip strength or cognitive disorders.

[7] *Dossier en pédicurie-podologie – Recommandations professionnelles* (Patient record in podiatry – Guidelines [In French]) -- ANAES 2001

- vascular disease
- allergy
- infection.

• Always look up previous disorders, podiatric treatment and outcomes.

IV.3 Clinical examination

- ***Neurological and vascular disorders***: These are common in elderly patients and are risk factors for complications which may be severe and which should be looked for, particularly if there are skin lesions or a history of skin lesions.

  (i) Routinely check:
  - posterior tibial and pedal pulses and capillary refill time after manual pressure on the plantar surface of the halluces;
  - superficial sensitivity other than in areas of hyperkeratosis, using a validated and internationally recognised technique if possible, such as perception of a 10 g monofilament (Annex 4).

  A neurological or vascular disorder requires a medical opinion in the following cases:
  - inability to detect pressure from a 10 g monofilament
  - absence of pulses
  - capillary refill time ≥ 5 seconds
  - presence of intermittent claudication.

(ii) Use non-invasive pedicure techniques in the event of a neurological or vascular disorder or if the patient is taking anticoagulants or immunosuppressants.

- ***History of falls:*** Assess in this case any structural or postural problems and any reduced joint mobility or neuromuscular function of the foot and ankle, after eliminating other causes.

- ***Pain:*** Use validated tools to assess pain (simple verbal scale, visual analogue scale, numerical scale or questionnaire on functional repercussions of foot pain)[8-9]; use the same tool before and after treatment, to measure the impact of treatment.

- ***Footwear:*** Assess the type of shoes the patient normally wears, measure foot size and width, and check whether shoes are appropriate for any structural or postural, skin or vascular disorders and can accommodate any treatment required (bandages, supports, etc).

- ***Functional capacity and repercussions on daily living activities***: Assess before and after treatment to identify risk of falling and to measure the impact of treatment.

  (i) Take history to find out:
  - whether there is a history of falls;
  - the patient's walking range and whether any walking aids are used;
  - how long the patient spends standing.

  (ii) Assess the following functional capacities using validated tools (if available):
  - standing balance, i.e. time patient can stand on one leg, qualitatively and quantitatively;
  - dynamic standing balance and walking, qualitatively and also quantitatively using the "timed get up and go" test; this test can be used even in a small space;
  - any functional repercussions of foot symptoms on the patient's ability to go out and carry out daily living activities as they wish. Assessment checklists or "functional foot indices" are available for professionals. The only tools that have been validated are in English.

[8] *Évaluation et prise en charge thérapeutique de la douleur chez les personnes âgées ayant des troubles de la communication verbale - Recommandations professionnelles* (Assessment and management of pain in elderly people with verbal communication problems – Guidelines [In French] – ANAES 2000.

[9] *Évaluation de la douleur – Recommandations professionnelles* (Assessment of pain – Guidelines [In French])- ANAES 1999.

V Podiatry treatment

V.1 Skin care

- Tell patient or carers to wash feet daily with soap and water and dry them carefully, taking particular care with the spaces between the toes (grade B).
- Recommend application of a neutral pH cream or lotion to reduce skin dryness (level of evidence 2). There are too few published data to compare products. Ideally, the product should be applied just after washing to moisturise the superficial layers, avoiding the spaces between the toes so as not to increase maceration. Attention should be given to the heel area to prevent chapping and cracking.
- Discourage foot baths lasting longer than 10 minutes; water temperature should be maintained at a controlled level.
- Discourage frequent use of antiseptic products unless there is a specific indication for them.

V.2 Patient education

- Teach patients and/or carers how to check the patient's feet and how to carry out care that can be given without risk (grade B), because:
  - most foot disorders in the elderly are chronic conditions;
  - there is evidence to show that educational programmes in podiatry are clinically effective in patients aged over 60 (level of evidence 2).
- Tailor education to the patient's risk of foot problems. Education should include:
  (i) checking the state of the skin and skin appendages every day:
    - inspecting the feet or having someone else inspect them,
    - learning to recognise corns or calluses that are likely to cause problems,
    - looking for signs of maceration between the toes, and any cracks,
    - knowing how to recognise a plantar blister,
    - recognising the signs of early ingrown toenail (curved toenail, nail growing into the flesh at the sides of the nail, pain, etc.),
    - knowing how to manage small wounds,
    - knowing how to contact a doctor in emergency if necessary;
  (ii) complying with good foot hygiene:
    - washing the feet daily, controlling water temperature if the patient has sensory disorders,
    - drying the feet carefully,
    - moisturising the skin;
  (iii) learning how to cut toenails, smoothing the edges with a file without sharp edges;
  (iv) learning what to avoid doing or using:
    - avoiding walking barefoot,
    - not using instruments with sharp edges or points (eg corn cutters, razor blades)
    - avoiding using products that cause irritation, or products to dissolve corns if the patient has sensory or vascular disorders;
  (v) learning how to choose suitable footwear which will:
    - not put pressure on the foot, especially if the patient has a forefoot deformity,
    - prevent the foot sliding forward, by choosing shoes with low heels or shoes with sufficiently wide support under the heel of the foot,
    - have non-slip soles to prevent sliding,
    - be firmly attached to the foot,
    - take pressure off any vulnerable areas,
    - accommodate any dressings or bandages;
- inspecting and feeling the inside of the shoe to look for anything that could injure the foot;
- learning to put on toe splints;
- regularly wearing and checking toe splints and/or insoles.

V.3 Pedicure techniques

Studies to measure the clinical or iatrogenic impact of pedicure techniques have only been carried out in subjects with diabetes. Currently (2005), there is no information on how podiatry treatment affects symptoms (pain, hyperkeratosis, hypertrophy or curvature of the nail, etc), functional capacity (balance, walking range) or quality of life in elderly people. However, from experience, professionals in the working group observed that:

- elderly subjects' nails are often hypertrophied, which is hard to manage without specific equipment, or are too curved, which predisposes to ingrown toenails, with a risk of broken skin in an already vulnerable situation;
- regular care can ensure that hyperkeratosis or nail disorders do not cause pain, which helps to improve patients' quality of life;
- high-quality care in the right conditions cannot always be satisfied by personal care or care performed by carers (level of evidence 2); care should be given by a professional.

In the absence of studies, the following recommendations (agreement among professionals) were made:

- assess the foot for any risk factors before using any instruments, to weigh up the risks against the benefits of the care proposed[10];
- use appropriate techniques for fragile skin and use the least aggressive methods. When removing hyperkeratosis, rotary instruments are sometimes useful and also comfortable for the patient. File hypertrophied nail plates regularly to control their volume. The reasons for thinning the nail are to make the nail bed visible, prevent nails catching on shoes, and to prevent trauma to the nail bed or nail matrix. Follow the curve of the nail when filing;
- do not file just the centre of the nail when treating ingrown toenails;
- treat curved nails in subjects with circulatory problems (a risk factor for skin complications only if they cause the nail to grow into skin folds) by local care of the skin fold and by other techniques if indicated (nail braces, surgery, etc).

V.4 Use of orthotics

Very few studies have measured the clinical impact of foot orthotics. None has been in an exclusively elderly population:

- orthotic insoles have been shown to have some clinical effect in specific disorders in adults[11]
- there is only one published clinical trial of nail splints or toe splints in adults;
- there have been no trials of the effect of foot orthotics on anticipated functional improvement (balance, walking, falls), other than a few laboratory studies.

The following recommendations (agreement among professionals) were made:

- state the purpose (stabilisation, correction, pain relief) and expected effects of the orthotic if prescribing but not manufacturing the orthotic, to improve communication between professionals;
- obtain the patient's informed consent before an orthotic is made, particularly with regard to the cost, how it will be reimbursed, and the need for the orthotic to be appropriate for the disease and compatible with footwear;
- give detailed instructions to the patient, their carers and any other health professionals involved, including:

[10] Example of rationale for weighing up risks and benefits ratio: the expected benefit of treating a corn might be improved walking range by eliminating pain or eliminating excess plantar pressure or eliminating the risk of infected hygroma or osteitis developing; the potential risk of the treatment would be broken skin, which could lead to serious complications in the form of nonhealing if the patient has arterial disease.

[11] Orthotic insoles have a therapeutic effect on the risk of ulcer recurrence in diabetics, and can prevent orthopaedic deformities in individuals with rheumatoid arthritis (level of evidence 2); the preventive effect is not associated with a clinically detectable analgesic or functional effect.

  - advice on using and looking after the orthotic (marking 'right/left', 'front/back', putting it on, how long it should be worn every day, how long treatment is expected to last, hygiene);
  - the possible side-effects and the importance of seeing a podiatrist should they occur.
- make an appointment for any adjustments to the orthotic, particularly if the patient has sensory neuropathy in which case particular care is needed in checking that the orthotic is not causing side effects.
- if manufacturing the orthotic, assess outcomes in relation to:
  - expected effect (reduction in symptoms which the orthotic was prescribed to alleviate, no onset of warning signs)
  - any side effects
  - pain
  - functional capacity standing and walking;
  - whether orthotic therapy should continue or be stopped.

  This will make it possible to compare the expected and actual effects.

— *Nail braces*

Nail braces are indicated to modify excessive nail curvature[12]. They are contraindicated in the event of infection, including fungal infection, nail dystrophy or a soft tissue or bone tumour.

- Use techniques that do not involve any contact with the nail groove in elderly individuals with fragile skin. Use staples made of titanium wire and blades rather than steel wire staples, which are contraindicated in patients with diabetic foot complications, arterial disease or neuropathy.
- Monitor the brace to ensure it is not causing any harm and assess efficacy of correction by observing the change in nail curvature and measuring the impact on foot pain.
- Investigate postural problems when they are the cause of excess curvature and try to stabilise them to avoid recurrence (recurrence of pain or increased nail curvature).

— *Artificial nail plates*

Artificial nail plates are indicated to prevent anterior ingrowth when tissue build-up is preventing nail growth. They are contraindicated if there are any wounds, tumours or infection, including fungal infection anywhere on or around nail. They should be used when the soft parts of the nail groove or anterior tissue build-up are likely to fill the space left vacant by the nail and cause secondary impingement when the nail regrows. The artificial plate can be isolated from the nail bed if the latter is fragile.

— *Toe splints*

Removable toe splints are indicated to realign reducible toe deformities when load-bearing and to protect the skin of the toe as toe deformities cause excess pressure either by contact with the shoe or by interdigital pressure. Toe splints are only indicated in elderly subjects if they can put the splint on by themselves or with help. They are contraindicated if the skin cannot tolerate the materials used or if the patient has a skin disorder.

Toe splints should be an option in elderly individuals when toe lesions:

- are painful and recurrent;
- cause problems with walking or wearing shoes;
- could cause severe complications in subjects at risk of foot problems.

The following should be borne in mind when prescribing toe splints for elderly patients:

- *skin tolerance*: the elastomers used should be of the right type and hardness for the patient. Tolerance should be monitored by the patient, family members, or professionals. In problem cases, the patient should gradually increase the length of time they wear toe splints, checking that there are no marks indicating iatrogenic problems;

[12] Nail braces involve attaching a spring to the nail plate to exert traction on its edges, which gradually reduces the excess curvature of the nail body.

- ability to use the splint: check whether the patient can put the splint on their foot or has access to help in doing so. It is often useful to mark the splint to distinguish right and left and show which way round the splint should be put on

- *Orthotic insoles*

Insoles are indicated in elderly subjects if their aim is to maintain or improve functional capacity and if they can:
- reduce pain symptoms caused by bone, muscle or joint, skin, circulatory or mixed disorders;
- compensate for or prevent aggravation of deformities that cannot be reduced, or can only be reduced slightly, by providing passive support to the bones and joints of the foot;
- encourage wound healing by reducing pressure points and eliminating rubbing at these points;
- prevent skin disorders by ensuring optimum distribution of plantar pressure, or by reducing pressure points, particularly when clinical examination has shown there are specific risks.

There are no contraindications to insoles in the elderly, but specific precautions are needed:
- when there are skin disorders of vascular, neurological or metabolic origin, in order to ensure that the insoles are harmless and well tolerated;
- when sensation is lost on the plantar surface of the foot as this affects quality of balance. Orthotics must be designed so that they combine a sufficiently firm base to ensure stability with a more flexible covering to avoid causing skin problems.

There was no consensus[13] among professionals on how insoles should be made. Compliance with the general principles of orthotic design and basing the choice of method and materials on the results of the clinical examination were recommended.

V.5 Advice on footwear

Advice on footwear is part of the management of foot problems because:
- cross-sectional studies in the elderly have shown there is an association between balance problems, risk of falls and footwear (level of evidence 2);
- pressure on the feet caused by shoes is one of the factors that causes circulatory problems and skin disorders (level of evidence 2); they also cause pain that may reduce mobility.

There are no studies in the elderly that measure the clinical efficacy of advice on footwear with regard to pain, functional capacity (balance, walking), risk of falling, and risk of skin complications. The following recommendations on footwear (agreement among professionals) were made:

— *Off-the-shelf shoes*

Elderly patients should wear shoes and restrict their wearing of slippers that provide little foot stability and are likely to increase the risk of falling. Off-the-shelf shoes are the type usually worn.

Advise patients that:
- footwear should not restrict foot volume and should allow for an orthotic insole to be worn, if necessary;
- the sole should be the right thickness and rigidity for the intended purpose[14];
- the heel should be low and broad to support the foot and ensure good stability;
- the uppers should be flexible and should have no seams or non-adjustable straps;

[13] However, the working group noted that moulded orthotics are particularly suitable for foot problems in the elderly. The moulding of heat-formed or heat-expanded materials to the patient's feet ensures that the orthotics are well-tolerated and optimises plantar pressure distribution. Combining different densities with the use of hygienic washable materials is a useful trend in the management of foot problems in the elderly

[14] A thick sole is best for absorbing pressure (agreement among professionals), a rigid sole reduces pain in patients with inflammatory joint disease (agreement among professionals) and a thin sole reduces falls in experimental situations (level of evidence 3).

- shoes should fit well to prevent the foot sliding in them or heels slipping off when walking; shoes without any support such as mules cause loss of balance and should not be worn to reduce the risk of falling;
- shoe fit and closure device should be adjustable;
- shoes should be easy to put on, with a wide opening, and easy to do up by patients who find it hard to grip things;
- shoes should be washable when patients are incontinent.

— *Off-the-shelf therapeutic shoes*

Off-the-shelf therapeutic shoes can be suggested for temporary or prolonged use.

- *Shoes for temporary use* are indicated for taking pressure off part of the foot, when worn postoperatively. They can be adjusted to fit the shape of the individual foot.
- *Shoes for long-term use* are indicated when a patient has foot problems that cannot be accommodated by off-the-shelf shoes.

These shoes are supplied on medical prescription and reimbursed under certain conditions by French Social Security organisations.

— *Made-to-measure therapeutic shoes*

Made-to-measure therapeutic shoes are indicated when the foot no longer fits either ordinary or therapeutic off-the-shelf shoes. They are made by a pedorthotist using a last produced by measuring the foot or from a mould of the foot. They are supplied on medical prescription and reimbursed as major aids by French Social Security organisations. All professionals should advise patients to make a follow-up appointment to adjust the fit of the shoes, particularly if the patient has sensory neuropathy, a situation where increased vigilance is needed.

VI Referral to health professionals

At the time of writing (2005), elderly patients in France can access podiatry care:

- without a medical prescription on the advice of those around them, home carers, medical or paramedical health professionals involved with the patient; in this case, services provided are not reimbursed;
- on medical prescription, with partial reimbursement of certain types of care and orthotic insoles[15];
- within a care network that bears the cost or with reimbursement of services by social organisations (experimental).

The working group recommended that elderly patients with a foot problem should be referred as follows and should be told how their care will be paid for:

- Refer to their own doctor:
  - if there are signs suggesting general disease (neuropathy, vascular disorder, signs of infection, etc) or local and/or tumour disease (melanoma, carcinoma, exostosis, etc.);
  - if concomitant drug therapy is likely to improve the outcome of podiatry care;
  - if podiatry treatment is not effective;
  - before referring the patient to a health professional other than a podiatrist.
- Refer to a podiatrist:
  - if they have skin disorders or postural problems of the foot related to a neurological or vascular disorder that is being monitored by a doctor;
  - if they have a foot problem combined with walking problems or a history of falls, which has been assessed by a doctor;
  - when there is an indication for a foot orthotic;
  - if the patient is unable to carry out everyday foot care (eg cutting toenails) for themselves, and does not have access to a competent carer to do this;

[15] see list of products and services to reimbursed given in article L.165 of the Social Security Code.

- to try to reduce hyperkeratosis.

Moreover, referral to a podiatrist is always useful:
- if the patient complains about their feet or has specific questions about them;
- if an elderly person has difficulty finding suitable footwear.

VII Communication between professionals

Elderly patients are usually under the care of several health professionals. To improve exchange of information between them, each professional should:
- write to any professionals to whom the patient is referred, stating why they are being referred and what results are expected;
- fill in a shared record that is given to the patient in order to inform all other professionals involved of the patient's foot problems and any repercussions these may have. An example of a shared record is given in Annex 5.

VIII Proposed future action

- More information about foot health should be produced for elderly people.
- Communication between podiatrists and other health professionals involved in caring for elderly patients should be improved.
- Medical and paramedical training programmes should reflect the information given in these guidelines.
- Further research into foot problems in elderly patients is needed, specifically
  - validation of measurement tools
  - assessment of podiatry treatment
  - French epidemiological data on foot problems and their functional repercussions.

Annex 1 – Participants

Learned societies consulted

Association nationale de recherche et d'évaluation en pédicurie-podologie (ANREP)
Société française de chirurgie et traumatologie (SOFCOT)
Société française de dermatologie chirurgicale (SFDC)
Société française de gériatrie et de gérontologie (SFGG)
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Société française de médecine et chirurgie du Pied (SFMCP)
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Société française de médecine vasculaire (SFMV)
Société française de podologie (SOFPOD)
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Isabelle Herbaux, podiatrist, Montpellier
Catherine Hervé-Quilfen, nurse, Rennes
Lionel Houeille, podiatrist, Libourne
Claude Huertas, podiatrist, Toulouse
Dr Michel Jouhandin, general practitioner, Le Coudray-Montceaux
Pascal Kieffert, podiatrist, Paris
Gilles Le Normand, podiatrist, Rennes
Claudine Mas-Daude, nurse, Arpajon-sur-Cère
Raymond Massaro, podiatrist/orthotist, Paris
Dr Micheline Michel, geriatrician, Rennes
Dr Christian Michel, general practitioner, Strasbourg
Dr Marie-Hélène Mizony, rheumatologist, Aurillac
France Mourey, physiotherapist, Dijon
Philippe Nardou, podiatrist, Belfort
Isabelle Piau, podiatrist, Castenet-Tolosan
Philippe Prido, podiatrist, Toulouse
Professor Muriel Rainfray, geriatrician, Bordeaux
Dr Brigitte Rémond, dermatologist, Évreux
Philippe Saillant, podiatrist, Nantes
Paul-Arnaud Salentey, podiatrist, Saint-Germain-en-Laye
Jean-Yves Salomé, podiatrist, Lomme
Isabelle Seulet, podiatrist, Rennes
Dr Élisabeth Steyer, general practitioner, Talange
Gilles Thibault de Beauregard, podiatrist, Moulins
Professor Philippe Thoumié, specialist in physical and rehabilitation medicine, Paris
Brigitte Vercesi, podiatrist, Clermont-Ferrand
Dr Bernard Verlhac, geriatrician and rheumatologist/podiatrist, Paris
Sylvie Villeneuve-Parpay, podiatrist, Paris
Jean-Paul Weber, podiatrist, Marseille
Thérèse Wild, podiatrist, Mennecy

Annex 2 – Assessment method

The HAS method for producing these clinical practice guidelines[16] comprised the following steps:

Defining the scope of the guidelines (Steering committee). HAS invited representatives from learned societies concerned by the topic to take part in a steering committee whose job was to define the scope of the guidelines, to review previous work on the subject and to nominate professionals to take part in a working group or act as peer reviewers.

Literature search (Documentation Department of HAS): See below

Drafting the guidelines (Working group). The HAS project manager formed a working group of 16 professionals from a number of disciplines, working in public or private practice, from all over the country. The chair of the working group coordinated the production of the guidelines with the help of the project manager whose job was to ensure conformity with the methodological principles of guideline production. Two members of the working group identified, selected, and analysed relevant studies (from a literature search performed by the HAS Documentation Department) and wrote a draft report. This draft report was discussed by the working group over 4 meetings and amended in the light of comments from other members of the working group and from peer reviewers. Proposals for future studies and action were made.

External validation (Peer reviewers). Peer reviewers were appointed according to the same criteria as working group members. They were consulted by post after the third working group meeting, primarily with regard to the readability and applicability of the guidelines (scores from 1 (total disagreement) to 9 (total agreement)). Professional agreement is considered to have been reached if the median score is 7 or over. The HAS project manager summarised the peer reviewers' comments and submitted them to the working group prior to the third meeting. The working group took account of all comments relating to recommendations scoring less than 7. Peer reviewers were asked to sign the final document.

Internal validation by the HAS Board. The Committee for Practice Guidelines and Practice Improvement validated the report. The working group finalized the guidelines with due regard to their comments.

Literature search and analysis (general procedure)

The scope of the literature search was defined by the steering committee and the project manager. The search was carried out by the HAS Documentation Department and focused on searching:

- medical and scientific databases over an appropriate period, with special emphasis on retrieving clinical practice guidelines, consensus conferences, articles on medical

[16] Full details are given in *"Recommandations pour la pratique clinique – base méthodologique pour leur réalisation en France – 1999" (ANAES)*

decision-making, systematic reviews, meta-analyses and other assessments already published nationally or internationally (articles in French or English)
- specific and/or financial/economic databases, if necessary
- all relevant websites (government agencies, professional societies, etc.)
- the grey literature (documents not identified through the usual information distribution circuits)
- legislative and regulatory texts

Further references were obtained from citations in the articles retrieved above and from working group members' and peer reviewers' own reference sources. The search was updated until the project was completed.

The articles selected were analysed according to the principles of a critical appraisal of the literature, using a checklist, to allocate a level of scientific evidence to each study. Whenever possible, the working group based their guidelines on this review of the literature. Guidelines were graded from A to C as shown in Table 1 depending on the level of the evidence of the supporting studies. If no grading is given, they are based on agreement among professionals.

Table 1. Grading of guidelines

Level of published scientific evidence	Grade
Level 1 Randomised controlled trials of high power Meta-analyses of randomised controlled trials Decision analyses based on properly conducted studies	**A:** Established scientific evidence
Level 2 Randomised controlled trials of low power Properly conducted non-randomised controlled trials Cohort studies	**B:** Presumption of scientific foundation
Level 3 Case-control studies	**C:** Low level of evidence
Level 4 Comparative studies with major bias Retrospective studies Case series	

Annex 3 – Podiatry record

The information a podiatrist should record during clinical examination is given in French guidelines ("Patient records in podiatry", ANAES, 2001) from which the following sample records have been taken.

PATIENT RECORD
Date record started:
Surname: **Forename:** **Gender:** **Date of birth:**
Address: **Tel:**
National health insurance number:

Name of insured person:
Living conditions / Housing: Profession:
Sport – level– leisure activities:
Patient's own doctor: Doctor tel:

Reason for seeing a podiatrist:

History:

Family:
Personal: - medical allergy : - drugs:
- surgical - other:
Risk factors:
Current treatment:
Other professionals involved:

Previous podiatry consultations:

Place: orthotic insole worn:
Date: type:
Comment: date prescribed:

General clinical examination

Date of examination: . . / . . / . . height: weight: Body mass index:
Clinical signs:
Disorder(s) mentioned: normal footwear:

Assessment of functional restriction:

Medical diagnosis and prescription:

PODIATRY CARE RECORD

Date seen:
Physical examination with feet not weight-bearing:

type of foot:
deformities:

relative length of metatarsals:

No shoes, weight-bearing:
With shoes, weight-bearing:

footprint study:
examination of shoes:

Dynamic examination:
- comments:

- with/without shoes:

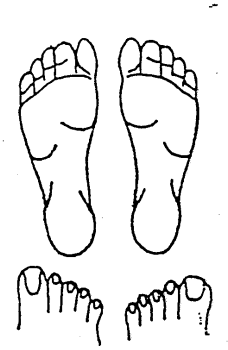
Clinical examination:
- vascular (arteries/veins/lymph system):

- neurological:

- joints:

- muscles:

- dermatological:
skin and appendages:



Type of lesions: Lesion sites:

Disability:

Pain assessment:

Diagnosis and podiatry goals:

Care given:

Materials used:

Dressing:

Treatment prescribed:

advice/referrals:

Comments, problems encountered:

Treatment follow-up:

Proposed orthotics:
Toe splint:
location:
type:
material:

Nail brace:
location:
type:
material:

CLINICAL RECORD - ORTHOTICS

Clinical examination by podiatrist

Site of pain and pain assessment:

Assessment of disability:

Examination with feet not weight-gearing

- pelvic girdle:
- hips:
- knees:
- type of foot: Relative length of metatarsals:
- deformities:

Vascular (arteries/veins/lymph system):

Neurological:

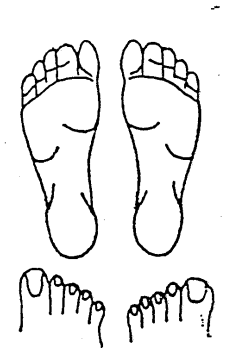
Joints:

Muscles:

Dermatological: skin and appendages

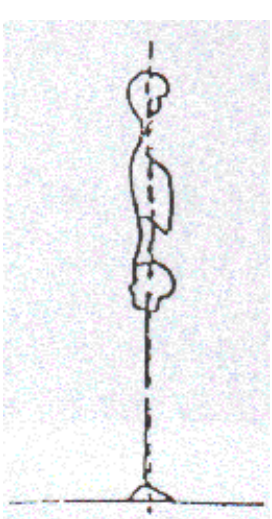
types of lesions:

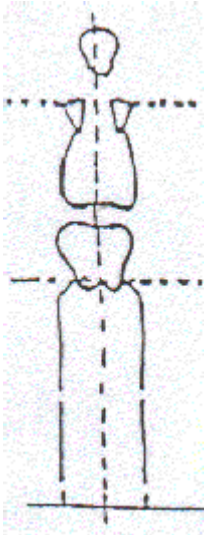
lesion sites:

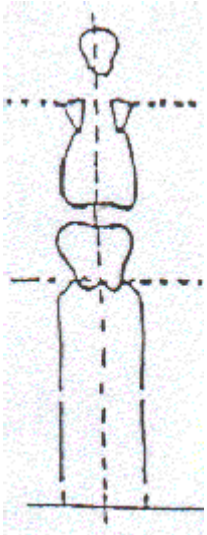


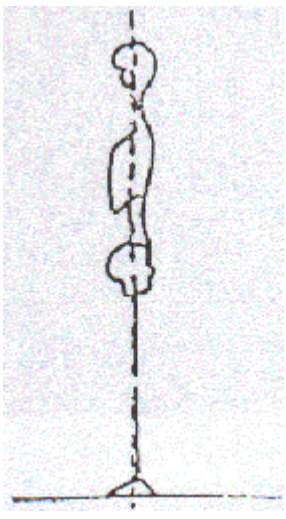
Clinical examination, no shoes, weight-bearing

General posture:







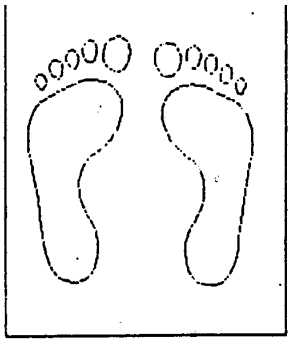


Foot examination, no shoes, weight-bearing

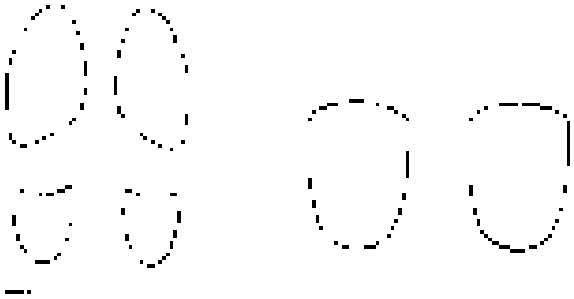
Footprint and foot contour study (date, and documents attached):
Tests using instruments:

Footprint study

heel balance:
hindfoot:
midfoot:
forefoot:
Comments:



examination of shoes: comments, type, wear, deformity



Clinical examination, posture when weight-bearing, patient wearing shoes
Overall posture:
Pelvic girdle
Hips
Knees
Feet

Tests performed – result:

Wedge orthotics – result:

Changes from baseline examination:

Dynamic clinical examination when weight-bearing, patient with and without shoes

Specify type of examination: walking, running, movement used in sport, movement used in work.

Examination conclusions / diagnosis

Treatment goals:

Do treatment goals correspond to patient's expectations?:

Orthotic supplied on: Next check-up on:

Annex 4 – Monofilament sensitivity test

The procedure for carrying out the 5.07 (10 g) Semmes-Weinstein monofilament test is described in the international guidelines for preventing diabetic foot[17]. The test should be performed in a quiet and relaxed setting.

- First apply the monofilament on the patient's hands (or elbow, or forehead) so that the patient knows what to expect.
- The patient must not be able to see if and where the examiner applies the filament. The three sites to be tested on each foot are the plantar surface of the head of the first metatarsal, the head of the fifth metatarsal and the hallux.
- Apply the monofilament perpendicular to the skin surface.
- Apply sufficient force to cause the monofilament to bend or buckle.
- The total duration of the approach, skin contact and removal of the monofilament should be about 2 seconds.
- Apply the monofilament along the perimeter of and not on an ulcer site; do not apply it to a callus, scar or necrotic tissue. Do not allow the monofilament to slide across the skin or make repetitive contact at the test site.
- Press the monofilament to the skin and ask the patient if they can feel the pressure applied (yes/no) and then where they feel it (left/right foot).
- Repeat this application twice at the same site, alternating it with one "sham" application, in which no monofilament is applied (total of 3 questions per site).
- Protective sensation is present at each site if the patient correctly answers two out of three applications. Protective sensation is absent with two out of three incorrect answers, and the patient is then considered to be at risk of ulceration.
- Encourage the patient during testing.

[17] International Working Group on the Diabetic Foot, Practical Guidelines, 2004;
International consensus on the Diabetic Foot, Practical guidelines, 2004;
Apelqvist J, Bakker K, van Houtum WH, Nabuurs-Franssen MH, Schaper NC, International Working Group on the Diabetic Foot. International consensus and practical guidelines on the management and the prevention of the diabetic foot. Diabetes Metab Res Rev 2000;16 Suppl 1:S84-92.

Annex 5. Shared record

To improve communication between the patient and the professionals dealing with their foot problems, an example shared record is given here. It should be given to the patient as a paper file in which each professional involved will record their comments and advice.

Date	Professional(s) involved	Comments and conclusions	Date: Surname: First name: Sex: Date of birth Body mass index: Weight: Height: Family and social situation: General practitioner: Nurse: Podiatrist: Physiotherapist: Home carer: Transport outside the neighbourhood (public transport, car, etc.):

HISTORY:
- Medical:
- Falls:
- Foot problems:

WALKING AUTONOMY (daily life at home, shopping, leisure activities; is autonomy at risk: yes/no):
- Patient's wishes:

- Advice for patient:

- Planned treatment and/or assessment (local care, orthotics, medical examination, etc.)

SUIVI

Dates	Professional(s) involved	Comments and conclusions