Ortoprotesia

ISEL
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Ortoprotesia e a Diáspora

Os Instrumentos de Medição e Avaliação

As tomadas de decisão em saúde deverão ser baseadas em evidência científica

Gholizadeh, H., Abu Osman, N. a, Eshraghi, A., Ali, S., & Razak, N. a. (2014). Transtibial prosthesis suspension systems: Systematic review of literature. In *Clinical Biomechanics* (Vol. 29, Issue 1, pp. 87–97). Elsevier Ltd. https://doi.org/10.1016/j.clinbiomech.2013.10.013

Com a previsão de um aumento contínuo do número de amputados, com a contínua evolução das ciências e tecnologias médicas, com a contínua evolução científica da Ortoprotesia, (componentes, técnicas especificas, materiais)[1], com a continua melhoria da formação dos profissionais, com a alteração do paradigma do estado social, tal como o conhecemos, urge refletir sobre a Reabilitação do amputado, com o recurso aos dispositivos biomecânicos (próteses), que deverão ser aplicados de forma consciente, sustentada e fundamentada numa base cientifica[2].

1- (Holman et al., 2012)Holman, N., Young, R. J., & Jeffcoate, W. J. (2012). Variation in the recorded incidence of amputation of the lower limb in England. *Diabetologia*, *55*(7), 1919–1925. https://doi.org/10.1007/s00125-012-2468-6

2 -Van der Linde, H., Hofstad, C. J., Geurts, A. C. H., Postema, K., Geertzen, J. H. B., & van Limbeek, J. (2004). A systematic literature review of the effect of different prosthetic components on human functioning with a lower-limb prosthesis. *Journal of Rehabilitation Research and Development*, *41*(4), 555–570. http://www.ncbi.nlm.nih.gov/pubmed/15558384

O principal objetivo na reabilitação de um amputado do membro inferior é a total reintegração na sociedade no máximo das suas capacidades físicas, mentais, emocionais e sociais[1, 2]. Com o intuito de alcançar este objetivo tem surgido um crescente interesse em instrumentos que possam quantificar a mobilidade/funcionalidade, fator muito importante na reabilitação, em pessoas com amputação do membro inferior[3], a fim de monitorizar com precisão o impacto das intervenções terapêuticas[4], em particular na funcionalidade obtida com a utilização de próteses para o membro inferior[5].

1- Franchignoni, F., Giordano, A., Ferriero, G., Orlandini, D., Amoresano, A., & Perucca, L. (2007). Measuring mobility in people with lower limb amputation: rasch analysis of the mobility section of the prosthesis evaluation questionnaire. *Journal of Rehabilitation Medicine : Official Journal of the UEMS European Board of Physical and Rehabilitation Medicine*, *39*(2), 138–144. https://doi.org/10.2340/16501977-0033

2 -Gremeaux, V., Damak, S., Troisgros, O., Feki, A., Laroche, D., Perennou, D., Benaim, C., & Casillas, J.-M. (2012). Selecting a test for the clinical assessment of balance and walking capacity at the definitive fitting state after unilateral amputation: a comparative study. *Prosthetics and Orthotics International*, *36*(4), 415–422. https://doi.org/10.1177/0309364612437904

4- Pedro, L., & Pais-Ribeiro, J. (2008). Características psicométricas dos instrumentos usados para avaliar a qualidade de vida na esclerose múltipla : uma revisão bibliográfica. *Fisioterapia e Pesquisa*, *15*(3), 309–314.

Resnik, L., & Borgia, M. (2011). Reliability of outcome measures for people with lower-limb amputations: distinguishing true change from statistical error. *Physical Therapy*, *91*(4), 555–565. https://doi.org/10.2522/ptj.20100287

3- Sinha, R., van den Heuvel, W. J. a, & Arokiasamy, P. (2011). Factors affecting quality of life in lower limb amputees. *Prosthetics and Orthotics International*, *35*(1), 90–96. https://doi.org/10.1177/0309364610397087

As tomadas de decisão em saúde deverão ser baseadas em evidência científica[1]. Das inúmeras opções existentes, decidir qual a melhor solução, com base numa sustentação científica, será no futuro próximo uma realidade cada vez mais presente e necessária e uma mais-valia, na argumentação científica, sobre a pertinência ou não de determinadas soluções.

O conhecimento dos números de amputações, da sua classificação, etiologia e nível poderá estabelecer a prevalência e as tendências futuras na perda do(s) membro(s) como instrumento importante para o planeamento de cuidados de saúde e para o investimento racional dos recursos[2] .

1 -(Gholizadeh et al., 2014)Gholizadeh, H., Abu Osman, N. A., Eshraghi, A., Ali, S., Arifin, N., & Wan Abas, W. A. B. (2014). Evaluation of new suspension system for limb prosthetics. *Biomedical Engineering Online*, *13*, 1. https://doi.org/10.1186/1475-925X-13-1

2 -Ziegler-Graham, K., MacKenzie, E. J., Ephraim, P. L., Travison, T. G., & Brookmeyer, R. (2008). Estimating the Prevalence of Limb Loss in the United States: 2005 to 2050. *Archives of Physical Medicine and Rehabilitation*, *89*(3), 422–429. https://doi.org/10.1016/j.apmr.2007.11.005

O Porquê de Medir

REHABILITATION NOTES

REHABILITATION SECTION
BALTIMORE CITY MEDICAL SOCIETY

DOUGLAS G. CARROLL M.D.
EDITOR

FUNCTIONAL EVALUATION: THE BARTHEL INDEX

A simple index of independence useful in scoring improvement in the rehabilitation of the chronically ill

FLORENCE I. MAHONEY, M.D.
AND
DOROTHEA W. BARTHEL, BA, PT

Since 1955, the chronic disease hospitals in Maryland (Montebello State Hospital, Deer's Head Hospital, and Western Maryland Hospital) have been using a simple index of independence to score the ability of a patient with a neuromuscular or musculoskeletal disorder to care for himself, and by repeating the test periodically, to assess his improvement. The Index (BI) has also been taught to many nurses, who have been helpful in evaluating patients prior to admission to these hospitals and after discharge.

Box and Block Test of Manual Dexterity: Norms for 6-19 Year Olds

by Virgil Mathiowetz, Susan Federman and Diana Wiemer

Abstract

The purpose of this study was to collect normative data for individuals, aged 6 to 19 years, on the Box and Block test of manual dexterity. Four hundred and seventy-one subjects (231 females and 240 males) were recruited from the seven county Milwaukee area. The subjects were from urban, suburban, and rural settings thus encompassing a wide range of socioeconomic backgrounds. Data were stratified into seven age groups of two year intervals. Results showed that increases in manual dexterity coincided with increases in chronological age. Female scores were generally better from 6 to 11 years, while males achieved slightly higher scores from 12 to 19 years. On the average right and left hand dominant subjects scored higher with their right hands although right handers were clearly more lateralized than left handers.

Occupational therapists frequently evaluate and treat persons with deficits in manual dexterity. Therefore, it is essential for occupational therapists to have objective tools to measure an individual's level of dexterity skill. The Box and Block Test (Trombly, 1983) is one tool that has been suggested for measuring gross or manual dexterity. However, there is limited nor-

Ayres and Holser to evaluate the gross manual dexterity of adults with cerebral palsy. It was later changed and copyrighted in its present form in 1957 by Holser (currently Buehler) and Fuchs. The test was designed to be durable and simple enough that persons with severe dexterity deficits could be tested.

of the Box and Block Test has been supported by a previous study which correlated it with the Minnesota Rate of Manipulation Test (placing subtest) at r= .91 and with the General Aptitude Test Battery (Part 10) with r = .86 (Cromwell, 1976). These correlations would indicate these three tests measure similar types of dexterity. Therefore therapists who use the Minnesota

Prosthetics and Orthotics International, 1981, 5, 23–28

The assessment and description of amputee activity

H. J. B. Day

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Abstract

The activity achieved by a lower limb amputee is usually assessed by clinical judgement or physiological tests. The former is seldom absolute, being affected by factors such as patient age, and is expressed in categories which may not be equivalent to those used by other observers. Physiological testing provides a measure of the patient's capabilities, but not his activity which may be dependent more on social requirements than physical state.

This paper describes a method of questioning the patient using multiple choice answers attracting positive and negative scores, which summate to provide an overall "Activity Score". The procedure takes about 15 minutes and uses the minimum of observer judgement. The technique has been developed over six years and 2400 patients have been investigated. Validation procedures are described, including the use of step counters which show a substantially linear relationship between annual step rate and "Activity Score".

1. *Performance and/or physiological testing* which provides, usually in a laboratory environment, a measure of the patient's ultimate capability rather than his day to day activity. Whereas the heavily handicapped patient may need to walk as much as his physical state will allow, the less disabled amputee may never need or want to stretch himself to his physical limit.
2. *Step counting* using a miniature electronic counter gives an accurate measure of the activity level reached, (Holden et al, 1979) but would be costly and logistically difficult to apply to a large number of patients. Furthermore it has the disadvantage that modifications to the prosthesis are required.
3. *Clinical judgement* in which the observer questions the patient about his life and capabilities, compares his answers with those given by others and expresses the result in words or categories. This, the most commonly used method has advantages of cheapness and simplicity but is subject to certain inaccuracies. Various patient factors, such as age, site of

Clinical classificação do CIF -IMA's avaliadores de ATIVIDADE

A. TESTES DE MARCHA

1. Distância Fixa
    - i. TUG
    - ii. 'L' test
    - iii. 10-m walk
2. Tempo Fixo
    - i. 2-min walk test\

B. GRAUS DE MOBILIDADE

1. SIGAM

C. INDICES (resultados)

1. Genérico
    - i. Atividades de Vida Diária-AVD's
        - a. Barthel index
        - b. FIM
    - ii. Mobilidade
        - a. Clinical outcome variables scale (COVS)
        - b. RMI
        - c. WST
2. Específico da Amputação
    - i. Day's AAS
    - ii. Houghton score
    - iii. Locomotor index (LCI)
    - iv. Prosthetic evaluation questionnaire–mobility scale (PEQ–MS)
    - v. Questionnaire for persons with a transfemoral amputation (Q-TFA)
    - vi. Child amputee prosthetic project–functional status inventory (CAPP–FSI)
    - vii. Amputee mobility predictor (AMP)

OMS. (2004). ***Classificação Internacional de Funcionalidade, Incapacidade e Saúde***. Direcção-Geral da Saúde. https://www.dgs.pt/estatisticas-de-saude/documentos-para-download/classificacao-internacional-de-funcionalidade-incapacidade-e-saude-cif.aspx

Deathe AB, Wolfe DL, Devlin M, Hebert JS, Miller WC, Pallaveshi L. Selection of outcome measures in lower extremity amputation rehabilitation: ICF activities. *Disabil Rehabil*. 2009;31(18):1455-1473. doi:10.1080/09638280802639491

Table I. ICF definitions for primary classification categories.

Domain	Definition
Body function or structure	Body functions are the physiological functions of body systems (including psychological functions). Body structures are anatomical parts of the body such as organs, limbs and their components. Impairments are problems in body function or structure such as a significant deviation or loss
Activity	The execution of a task or action by an individual. Activity limitations are defined as difficulties an individual may have in executing activities
Participation	Involvement in a life situation. Participation restrictions are problems an individual may experience in involvement in life situations

Hebert JS, Wolfe DL, Miller WC, Deathe AB, Devlin M, Pallaveshi L. Outcome measures in amputation rehabilitation: ICF body functions. *Disabil Rehabil*. 2009;31(19):1541-1554. doi:10.1080/09638280802639467

Table II. Body function: ICF sub-classifications.

Body functions	
1	Mental functions
2	Sensory functions and pain
3	Voice and speech functions
4	Functions of the cardiovascular, hematological, immunological and respiratory systems
5	Functions of the digestive, metabolic and endocrine systems
6	Genitourinary and reproductive functions
7	Neuromusculoskeletal and movement-related functions
8	Functions of the skin and related structures

Table III. Evaluation categories and definitions.

Categories		Definition
1	Appropriateness	The match of the instrument to the purpose or question under study.
2	Reliability	Refers to the reproducibility and internal consistency of the instrument.
3	Validity	Does the instrument measure what it purports to measure?
4	Responsiveness	Sensitivity to change within patients over time.
5	Precision	Number of gradations or distinctions within the measurement
6	Interpretability	How meaningful are the scores?
7	Acceptability	How acceptable the scale is in terms of completion by the patient – does it represent a burden? Can the assessment be done by proxy?
8	Feasibility	Extent of effort, burden, expense and disruption to staff or clinical care arising from the administration of the instrument.

Hebert JS, Wolfe DL, Miller WC, Deathe AB, Devlin M, Pallaveshi L. Outcome measures in amputation rehabilitation: ICF body functions. *Disabil Rehabil*. 2009;31(19):1541-1554. doi:10.1080/09638280802639467

PROSTHETICS/ORTHOTICS/DEVICES

The 2-Minute Walk Test as a Measure of Functional Improvement in Persons With Lower Limb Amputation

Dina Brooks, PhD, Janet Parsons, MSc, Judith P. Hunter, MSc, Michael Devlin, MD, FRCPC, Janice Walker, MSc

ABSTRACT. Brooks D, Parsons J, Hunter JP, Devlin M, Walker J. The 2-minute walk test as a measure of functional improvement in persons with lower limb amputation. Arch Phys Med Rehabil 2001;82;1478-83.

Objective: To determine the construct validity and responsiveness of the 2-minute walk test as a measure of function in individuals with lower extremity amputation.

Design: The distances walked in 2 minutes were compared with the results on the physical functioning subscale of the Medical Outcomes Study Short-Form 36-Item Health Survey (SF-36) and the Houghton Scale.

Setting: Regional amputee rehabilitation program.

Patients: Retrospective data from 290 patients (mean age, 66yr) with unilateral transtibial, unilateral transfemoral, or bilateral amputations.

Intervention: Repeated testing.

OUTCOME MEASURES are becoming increasingly important in health care. They can be used to assess the impact of a specific intervention or an overall treatment program on an individual or a group of patients, and to identify those who benefit most and least from the services provided. They are also used as productivity measures to determine treatment outcomes and to assess the cost-effectiveness and efficiency of services provided. Measures of functional performance are of particular importance in lower extremity amputees because rehabilitation goals focus on improving mobility and activity levels.[1]

Walk tests can be administered as part of the assessment to

Disability and Rehabilitation, 2009; 31(18): 1455–1473

REVIEW

Selection of outcome measures in lower extremity amputation rehabilitation: ICF activities

A. BARRY DEATHE[1,2], DALTON L. WOLFE[1,3,4], MICHAEL DEVLIN[5,6], JACKIE S. HEBERT[7,8], WILLIAM C. MILLER[9,10] & LULJETA PALLAVESHI[3]

Keywords: *Outcome measures, rehabilitation, amputation, lower limb*

Introduction

There exists a lack of consensus in the literature as to what outcome reflects successful lower extremity amputee (LEA) rehabilitation and what outcome instrument is most appropriate to quantify that selected outcome [1–3]. The process of achieving consensus can be viewed as a synthesis of four factors.

Firstly, one must clarify the purpose for which data so obtained will be used. Feinstein identified six uses: to determine facility compensation, to predict prognosis, to plan placement, to estimate care/rehabilitation requirements, to assist in specific types of care/rehabilitation selection, and finally, to determine the change in health status secondary to an intervention [4]. For instance, an administrator may

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Disability and Rehabilitation, 2009; 31(19): 1541–1554

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healthcare

REVIEW

Outcome measures in amputation rehabilitation: ICF body functions

JACKIE S. HEBERT[1,2], DALTON L. WOLFE[3,4,5], WILLIAM C. MILLER[6,7], A. BARRY DEATHE[3,8], MICHAEL DEVLIN[9,10] & LULJETA PALLAVESHI[4]

Keywords: *Outcome measures, rehabilitation, amputation, lower limb*

Introduction

Outcome measurement is essential to effective rehabilitation practice and sound clinical decision-making [1]. Standardised and methodologically appropriate assessment of individuals following lower limb amputation is fundamental to the evaluation of rehabilitation outcomes to determine the effectiveness of programmes overall and specific interventions. However, a lack of consensus regarding the selection of outcome tools for lower limb amputation limits the ability to successfully transfer research findings to clinical practice and service delivery [2,3]. The degree to which a particular instrument is appropriate for it's intended use can be assessed by examining the metric properties (i.e. reliability, validity, responsiveness) that have been described in the scientific literature for the specific population of interest [4]. As well, practical considerations such as interpretability, acceptability and feasibility

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Lower Limb Prosthetic Outcome Measures: A Review of the Literature 1995 to 2005

Elizabeth Condie, Grad Dip Phys, FCSP, Helen Scott, Grad Dip Phys, MCSP, and Shaun Treweek, BSc, PhD

Key Words: evaluation, evidence-based medicine, lower limb prostheses, outcome measures, systematic review

"Patient-based outcome measure" is a shorthand term referring to the array of questionnaires, interview schedules, and other related methods of assessing health, illness, and benefits of health care interventions from the patient's perspective. Patient-based outcome measures, addressing constructs such as health-related quality of life, subjective health status, and functional status, are increasingly used as primary or secondary end points in clinical trials.[1] However, the concern over the psychometric properties of outcome measures is not just a prerogative of the researcher but is as important to clinicians who employ outcome measures to obtain baseline information, assess progress, and inform treatment planning.[2]

In rehabilitation, the measurement of "outcome" has gained increasing importance in recent years, driven primarily by the need for evidence-based practice, rather than providing services for patients based on tradition and anecdote.

In the foreword to a textbook on outcome measures, Professor Alan Jette states that "in the face of mounting pressures to demonstrate that what they do works, researchers and clinicians within the rehabilitation professions are aggressively pursuing clinical outcomes research ... outcome research findings are being used increasingly in physical rehabilitation to form evidence-based decisions regarding clinical practice." [3]

Specifically in the field of amputee and prosthetic rehabilitation, there has been a parallel increase in the use of outcome measures; however, there are a multitude of measures currently being used by researchers and clinicians, and there currently is no consensus regarding the most appropriate, or gold standard, measure or measures in this field.[4–7] Further, it is important to be able to distinguish between outcome measures that have adequate evidence and statistical estimates of validity and reli-

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Systematic Review

A systematic review of questionnaires to assess patient satisfaction with limb orthoses

Elisa Bettoni[1], Giorgio Ferriero[2], Hadeel Bakhsh[3], Elisabetta Bravini[3], Giuseppe Massazza[1] and Franco Franchignoni[2]

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are weak, ineffective, deformed or injured.[3]

A recent consensus conference on appropriate lower limb orthotics has stated that 'user involvement including satisfaction surveys must be an integral part of outcome assessment' and that 'user satisfaction surveys should be performed and include measures of the impact of orthotic management to enhance the quality of life'.[4] There are numerous types of satisfaction that can be measured, including personal aspects of care, the technical quality of care, financial considerations and efficacy.[5]

The demonstration of sound psychometric properties in these measures is a key factor for clinicians to know they can rely on data as accurate and meaningful indicators of the treatment outcome, thus improving decision-making in clinical practice.[6] In 2011, a literature review (on papers published up to January 2010) on patient satisfaction with orthotic treatment was published.[7] Its aim was to identify and appraise instruments for assessment of satisfaction with orthotic devices (for spine and limbs) and/or services. That review focused solely on studies describing devices fit by an orthotist or pedorthist and excluded papers about interventions applied by other health professionals. However, in the last 4 years, new papers on patient satisfaction with orthosis (PSwO) have been published, and validated questionnaires identified by the earlier review have subsequently undergone further psychometrical analyses.[8–11]

Check for updates

Systematic Review

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A systematic review of questionnaires to assess patient satisfaction with limb orthoses

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Elisa Bettoni[1], Giorgio Ferriero[2], Hadeel Bakhsh[3], Elisabetta Bravini[3], Giuseppe Massazza[1] and Franco Franchignoni[2]

Fields of application

The selected papers were divided according to the body region treated and the main diagnosis underlying orthotic use. Tables 1 and 2 list 99 papers assessing patient satisfaction with site- or region-specific devices (24 for upper limbs (Table 1)[12–35] and 75 for lower limbs (Table 2)[39–112]) in patients with orthopaedic (52.1%), rheumatologic (18.3%), neurological (19.4%) and vascular (1%), or miscellaneous diseases (9.2%). In addition, seven papers assessed PSwO in patient groups with a wide range of diseases and related upper and lower limb devices with no site-specific questionnaires.[10,11,36–38,114,115]

Mais tarde nos anos 70, a Cooper[1] desenvolveu e validou o Teste dos 12 Minutos de Desempenho (corrida) como um guia para a aptidão física *em homens jovens.*

Idade		Ótimo	Bom	Regular	Ruim	Péssimo
50+	M	2400+ m	2000 – 2400 m	1600 – 1999 m	1300 – 1599 m	1300- m
	F	2200+ m	1700 – 2200 m	1400 – 1699 m	1100 – 1399 m	1100- m

Cooper, K. H. (1968). A Means of Assessing Maximal Oxygen Intake. JAMA, 203(3), 201. https://doi.org/10.1001/jama.1968.03140030033008

Este teste foi posteriormente modificado para um 12MWT (teste de marcha) para avaliação da tolerância ao exercício em indivíduos com bronquite crônica[1].

Versões mais curtas deste teste de marcha, principalmente os testes de marcha 6 MWT e 2 MWT, também foram desenvolvidos para populações semelhantes[3].

2- McGAVIN, C. R., GUPTA, S. P., & McHARDY, G. J. R. (1976). Twelve-minute walking test for assessing disability in chronic bronchitis. British Medical Journal, 1, 822–823. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1639415/pdf/brmedj00510-0042.pdf
3 -Butland, R. J., Pang, J., Gross, E. R., Woodcock, A. A., & Geddes, D. M. (1982). Two-, six-, and 12-minute walking tests in respiratory disease. BMJ, 284(6329), 1607–1608. https://doi.org/10.1136/bmj.284.6329.1607

INSTRUMENTOS DE MEDIÇÃO E AVALIAÇÃO (IMA's)

(A) Self-Report Measures or Patient-Reported Outcomes

(a1) Functionity

(a2) Predictor

(B) Performance-Based Measures

(C) Biomechanical Measures

Agrawal, V. (2016). Clinical Outcome Measures for Rehabilitation of Amputees – A Review. Physical Medicine and Rehabilitation - International, 3(2), 1080.

Original Research Report

Predicting mobility outcome in lower limb amputees with motor ability tests used in early rehabilitation

Matthijs H Spaan[1], Aline H Vrieling[2], Pim van de Berg[1], Pieter U Dijkstra[2] and Helco G van Keeken[1]

ument to Assess Ability

ndon Cho, MSPT, PhD

Predi… and Reliab…

M. Elizabeth Condie, FCSP, …

The Amputee … Determinants of … to Ambulate

Robert S. Gailey, PhD, PT, Kathryn … Bridgid Cunniffe, MSPT, Stephanie L…

… Measure to …alidity

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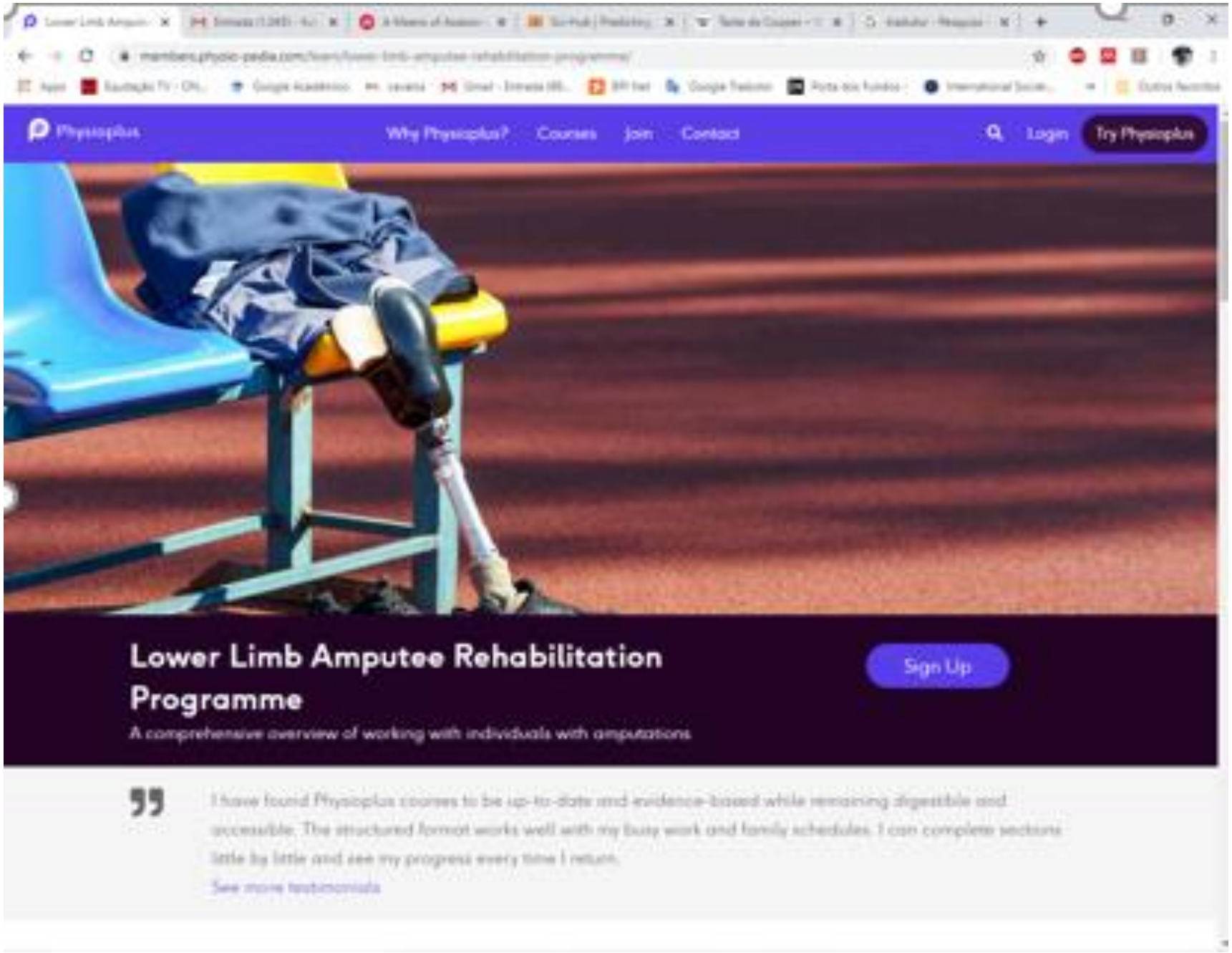
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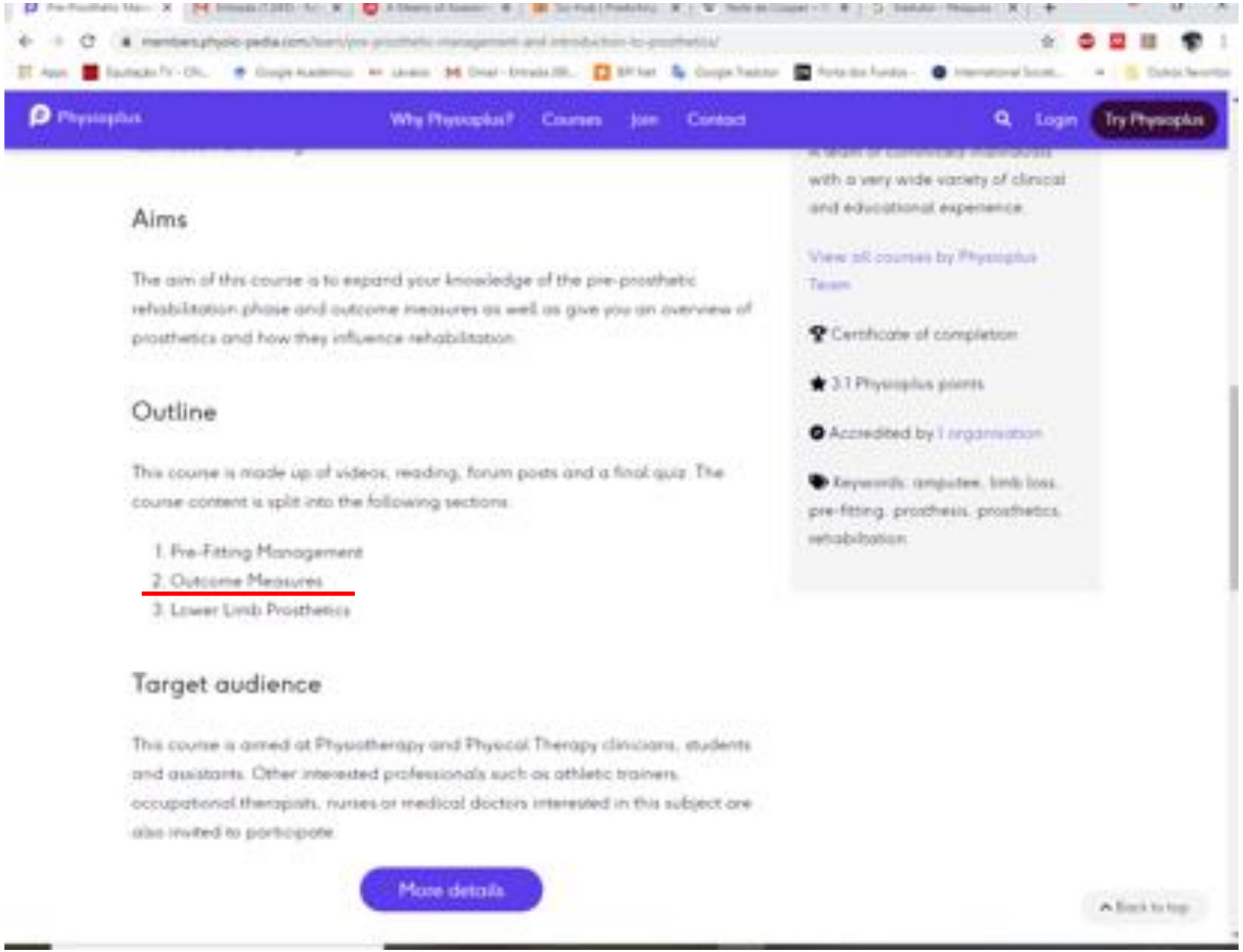
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The aim of this course is to expand your knowledge of the pre-prosthetic rehabilitation phase and outcome measures as well as give you an overview of prosthetics and how they influence rehabilitation.
Outline
This course is made up of videos, reading, forum posts and a final quiz. The course content is split into the following sections:
1. Pre-Fitting Management
2. Outcome Measures
3. Lower Limb Prosthetics
Target audience
This course is aimed at Physiotherapy and Physical Therapy clinicians, students and assistants. Other interested professionals such as athletic trainers, occupational therapists, nurses or medical doctors interested in this subject are also invited to participate.
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Alguns dados Epidemiológicos

O aumento da expectativa de vida da população implica necessariamente em um aumento de custos, tanto pelo crescimento do número de usuários quanto pelo aumento da morbidade, principalmente nos idosos. Nesta perspetiva os dados fornecidos pela Epidemiologia, permitirá uma melhor alocação de recursos e uma maior justiça social[1].

1, A Epidemiologia nos serviços de saúde. In: *Informe Epidemiológico Do Sus*. Vol 6. ; 1997:7-14. http://scielo.iec.gov.br/scielo.php?script=sci_arttext&pid=S0104-16731997000300002&lng=pt.

População residente segundo os Censos: total e por grandes grupos etários

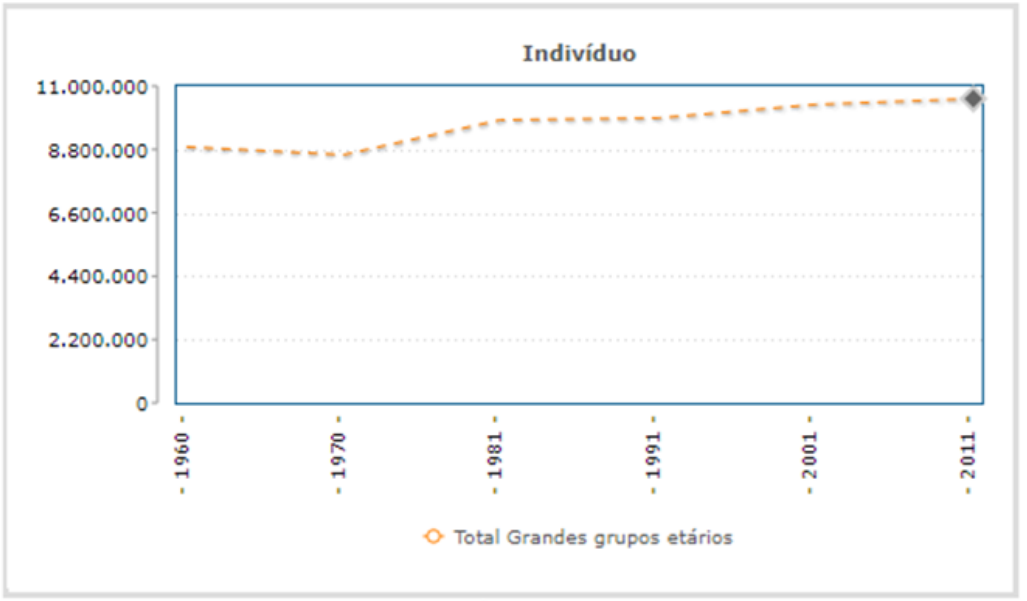
Quantos são os jovens, os idosos ou as pessoas em idade activa?

Indicador

Total Grandes grupos etários ▾

2011
⊥10.562.178
Indivíduos

1960
8.889.392
Indivíduos



Carregue no gráfico para ver ampliado

Anos	Grandes grupos etários			
	Total	0-14	15-64	65 ou mais
1960	8.889.392	2.591.955	5.588.868	708.569
1970	8.611.125	2.451.850	5.326.515	832.760
1981	9.833.014	2.508.673	6.198.883	1.125.458
1991	9.867.147	1.972.403	6.552.000	1.342.744
2001	10.356.117	1.656.602	7.006.022	1.693.493
2011	⊥10.562.178	⊥1.572.329	⊥6.979.785	⊥2.010.064

Fontes/Entidades: INE, PORDATA
Última actualização: 2018-02-16

https://www.pordata.pt/Portugal/Popula%C3%A7%C3%A3o+residente+segundo+os+Censos+total+e+por+grandes+grupos+et%C3%A1rios-512

Taxa bruta de natalidade

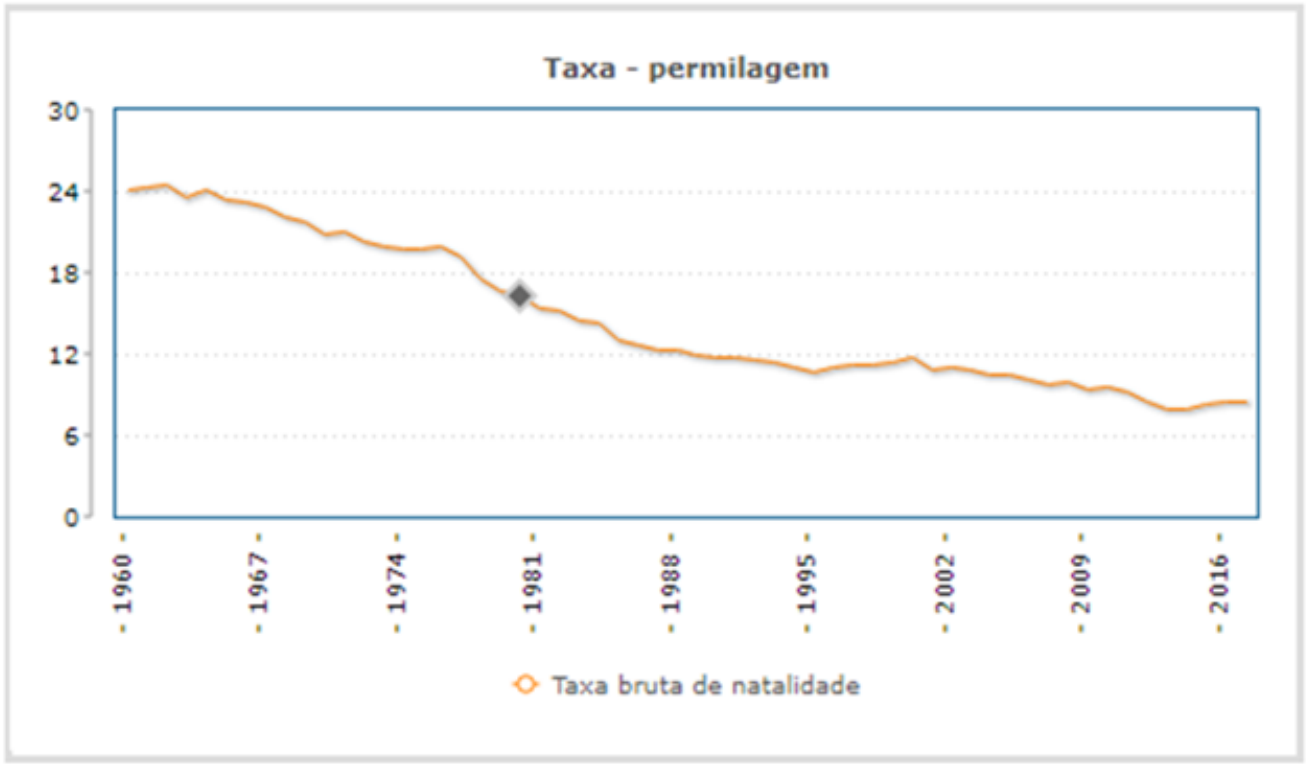
Quantos bebés nascem por 1.000 residentes?

Indicador

Taxa bruta de natalidade ▾

2017	8,4 ‰
1960	24,1 ‰

Taxa bruta de natalidade



Carregue no gráfico para ver ampliado

https://www.pordata.pt/Portugal/Taxa+bruta+de+natalidade-527

Esperança de vida à nascença: total e por sexo (base: triénio a partir de 2001)

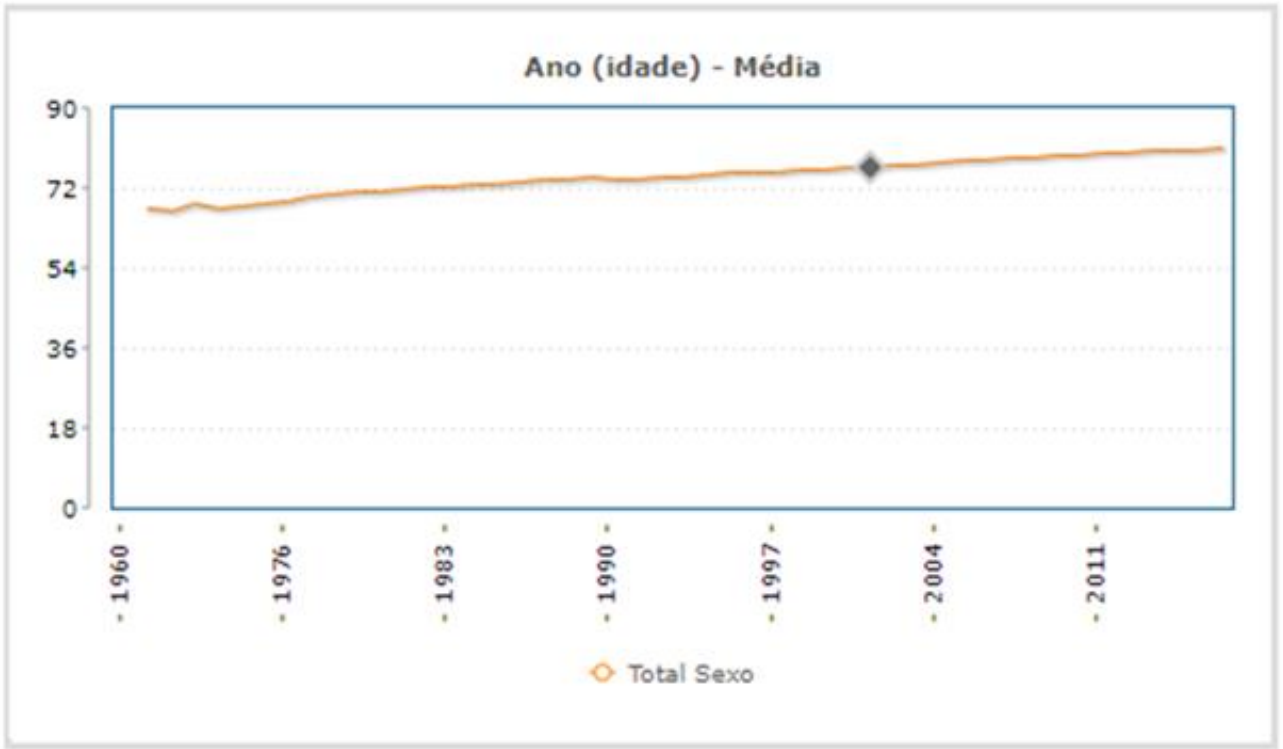
Quantos anos, em média, pode uma pessoa esperar viver desde o seu nascimento?

Indicador

Total Sexo ▾

2016
80,8
Anos (idade)

1970
67,1
Anos (idade)



Carregue no gráfico para ver ampliado

https://www.pordata.pt/Portugal/Esperan%C3%A7a+de+vida+%C3%A0+nascen%C3%A7a+total+e+por+sexo+(base+tri%C3%A9nio+a+partir+de+2001)-418

Esperança de vida aos 65 anos: total e por sexo (base: triénio a partir de 2001)

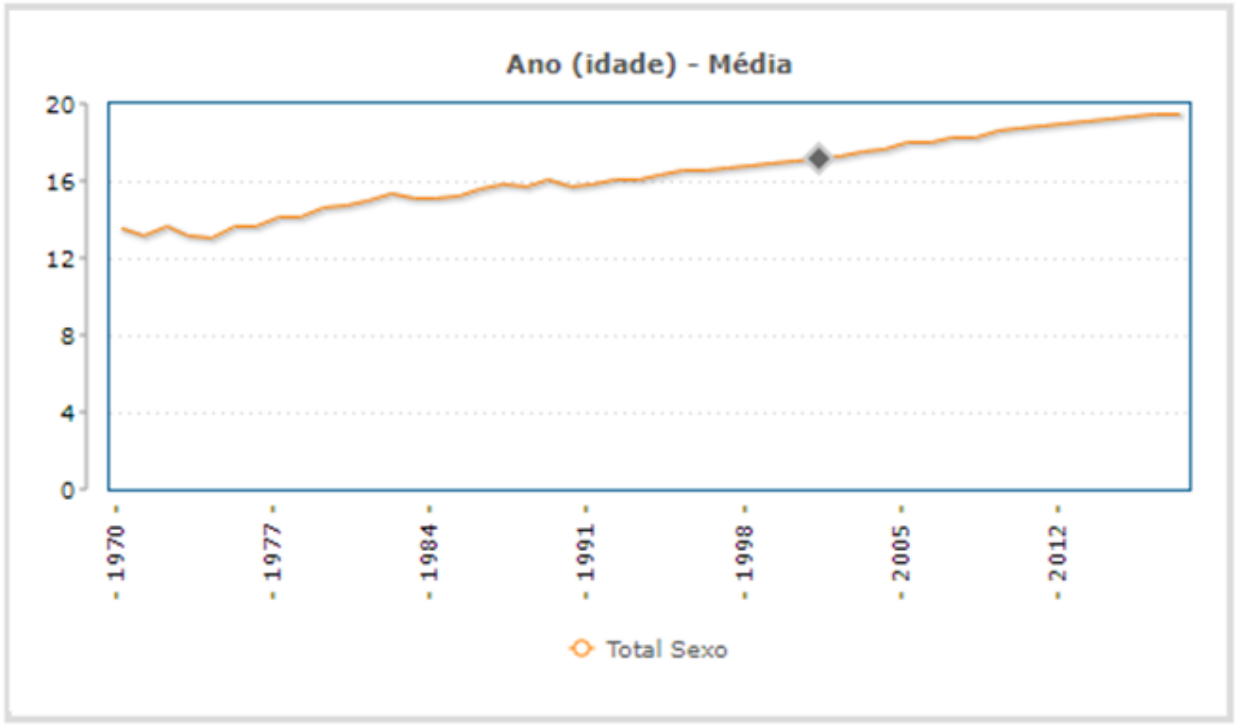
Quantos anos, em média, pode uma pessoa com 65 e mais anos esperar viver?

Indicador

Total Sexo ▾

2017
Pro 19,5
Anos (idade)

1970
13,5
Anos (idade)



Carregue no gráfico para ver ampliado

https://www.pordata.pt/Portugal/Esperan%C3%A7a+de+vida+aos+65+anos+total+e+por+sexo+(base+tri%C3%A9nio+a+partir+de+2001)-419

"Esta longevidade nos países de maior rendimento tem originado um crescimento das doenças crónicas, sendo responsável por uma grande parte das despesas em saúde, que segunda a Anabela Coelho, apresenta indicadores de uma verdadeira crise[1..]

Existe uma expetativa de consumo de cerca de 70/80% dos custos em saúde no ano de 2030, devido ás doenças crónicas[2.]

Desde 2010 que um terço da população Europeia tinha pelo menos uma doença crónica, situação responsável por alterações económicas negativas, implicando aumentos cada vez maiores nos orçamentos públicos e privados com as despesas dos cuidados de saúde[2]".

[1-] Coelho, A., Leone, C., Ribeiro, V., Sá Moreira, P., & Dussault, G. (2014). Integrated Disease Management: A Critical Review of Foreign and Portuguese Experience.

Acta Médica Portuguesa, 27(1), 116–125. Retrieved from https://www.actamedicaportuguesa.com/revista/index.php/amp/article/view/4758/3885

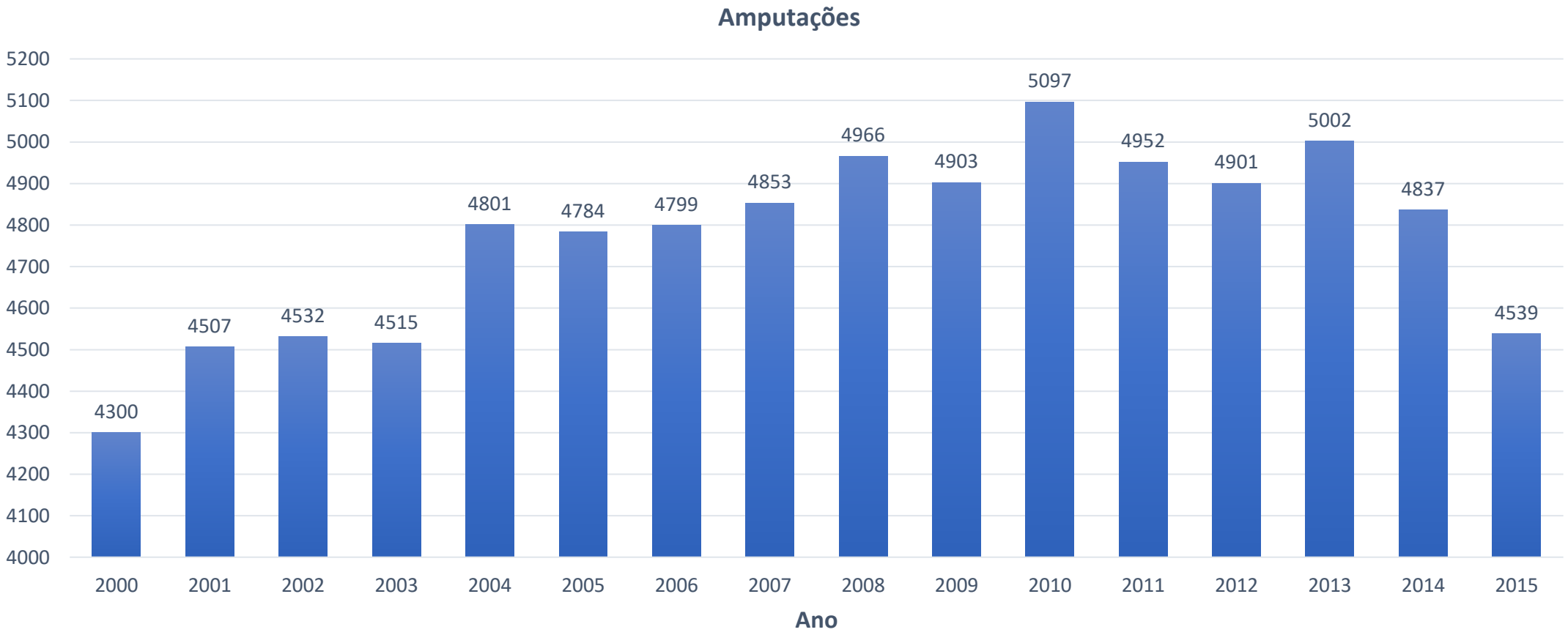
[2 -] Coelho, A. (2014). *Análise de uma política pública de saúde: Gestão Integrada da Doença* (Universidade Nova de Lisboa). Retrieved from

https://run.unl.pt/handle/10362/13967

Idade - Faixa etária

	Frequência	Percentagem
< 5 anos	**768**	**1**
[5;10[	**190**	**0,2**
[10, 20[	**799**	**1**
[20, 30[	**1623**	**2,1**
[30, 40[	**2499**	**3,3**
[40, 50[	**4486**	**5,9**
[50, 60[	**8740**	**11,5**
[60, 70[	**14932**	**19,6**
[70, 80[	**21518**	**28,2**
[80, 90[	**17172**	**22,5**
[90, 100[	**3528**	**4,6**
100 ou mais anos	**59**	**0,1**
Total	**76314**	**100**

Registaram-se 76314 admissões hospitalares com potencial de amputação no total dos anos 2000 a 2015. Destes, apenas 26 não resultaram em amputação: 1 caso em 2007, 3 em 2010, 2 em 2011, 1 em 2012, 6 em 2013, 2 em 2014 e 11 em 2015.



Classificação Estatística Internacional de Doenças, Traumatismos e Causas de Morte,

na 9ª revisão de 1975 (CID-9).

I. Doenças Infeciosas e Parasitárias (001 - 139)
II. Neoplasias (140 - 239)
III. Doenças das Glândulas Endócrinas, da Nutrição e
do Metabolismo e Transtornos Imunitários (240 - 279)
IV. Doenças do Sangue e dos Órgãos Hematopoiéticos (280 - 289)
V. Transtornos Mentais (290 - 319)
VI. Doenças do Sistema Nervoso e dos Órgãos dos Sentidos (320 - 389)
VII. Doenças do Aparelho Circulatório (390 - 459)
VIII. Doenças do Aparelho Respiratório (460 - 519)
IX. Doenças do Aparelho Digestivo (520 - 579)
X. Doenças do Aparelho Geniturinário (580 - 629)
XI. Complicações da Gravidez, do Parto e do Puerpério (630 - 676)
XII. Doenças da Pele e do Tecido Celular Subcutâneo (680 - 709)
XIII. Doenças do Sistema Osteomuscular e do Tecido Conjuntivo (710 - 739)
XIV. Anomalias Congénitas (740 - 759)
XV. Algumas Afeções Originadas no Período Perinatal (760 - 779)
XVI. Sintomas, Sinais e Afeções Mal Definidas (780 - 799)
XVII. Lesões e Envenenamentos (800 - 999)

33 015 amputações-2 063

A doença arterial periférica (DAP) é uma patologia sistémica, causada pela obstrução ateroesclerótica das artérias dos membros inferiores, associada principalmente a idades mais avançadas, faixa etária dos 70-80[1]. A necessidade de amputação em doentes com DAP, é a principal causa mundial de amputação do membro inferior (MI), tendo uma elevada prevalência na Europa e Estados Unidos[2].

Segundo os autores[2,3,4], a taxa de mortalidade aos 5 anos é de aproximadamente 50 a 80%, enquanto que a taxa de mortalidade ao 1 ano é de 44% e aos 3 anos é de 47% sensivelmente.

1. Corrêa JRC de OM. Amputação por doença arterial periférica: comparação da qualidade de vida e taxa de mortalidade em doentes protetizados vs não protetizados. 2016. https://repositorio-aberto.up.pt/bitstream/10216/88327/2/169021.pdf.
2. Chamlian TR. Use of prostheses in lower limb amputee patients due to peripheral arterial disease. *Einstein (São Paulo)*. 2014;12(4):440-446. doi:10.1590/S1679-45082014AO3132
3. Gaspar, Alexandra P., Ingham, Sheila J., Chamlian TR. Gasto energético em paciente amputado transtibial com prótese e muletas. *Acta Fisiátrica*. 2003;10(1):32-34.
4. Thorud JC, Plemmons B, Buckley CJ, Shibuya N, Jupiter DC. Mortality After Nontraumatic Major Amputation Among Patients With Diabetes and Peripheral Vascular Disease: A Systematic Review. *J Foot Ankle Surg*. 2016;55(3):591-599. doi:10.1053/j.jfas.2016.01.012

“O número de co-morbilidades tende a aumentar com a idade, enquanto que a capacidade física tende a diminuir, motivo que pode levar à exclusão dos programas de reabilitação protésicos, este pressuposto também está de acordo, com a diferença estatisticamente significativa, entre as idades dos dois grupos, 62,67 anos (± 11,64) no grupo dos protetizados e 74,00 anos (± 11,97) no grupo dos não protetizados. Foi encontrada uma associação com significância estatística (p<0,001) entre a protetização dos doentes e um aumento no tempo de sobrevida. O tempo de sobrevida dos pacientes (média de 3,9 anos) foi menor nos não protetizados do que nos protetizados.”

Chamlian TR. Use of prostheses in lower limb amputee patients due to peripheral arterial disease. *Einstein (São Paulo)*. 2014;12(4):440-446. doi:10.1590/S1679-45082014AO3132

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27 302 amputações – 1 706

Classificação Estatística Internacional de Doenças, Traumatismos e Causas de Morte,

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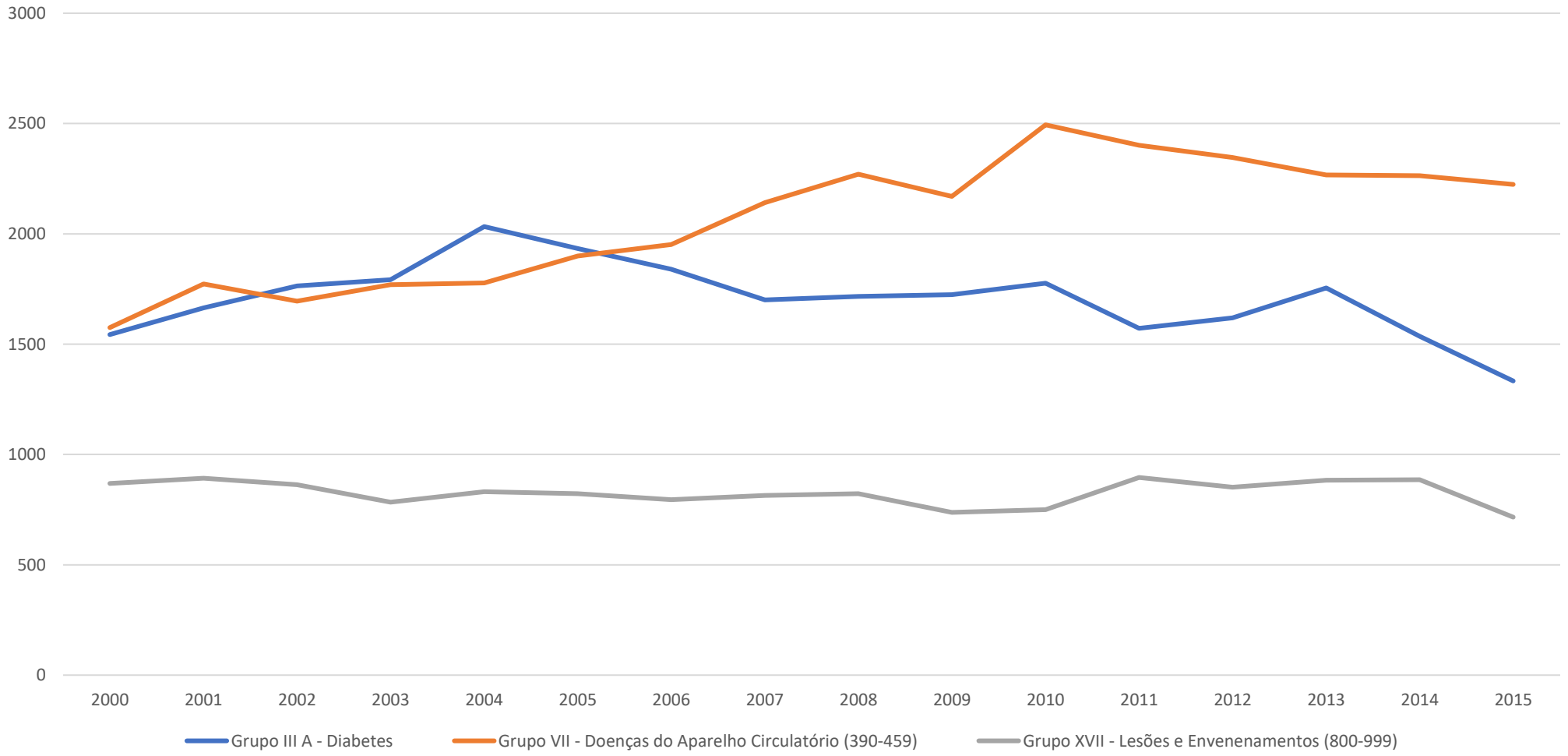
XVII. Lesões e Envenenamentos (800 - 999)

13 217 amputações – 826

Evolução do número amputações no período de: 2000 a 2015, divido pelos grupos de doenças CID-9

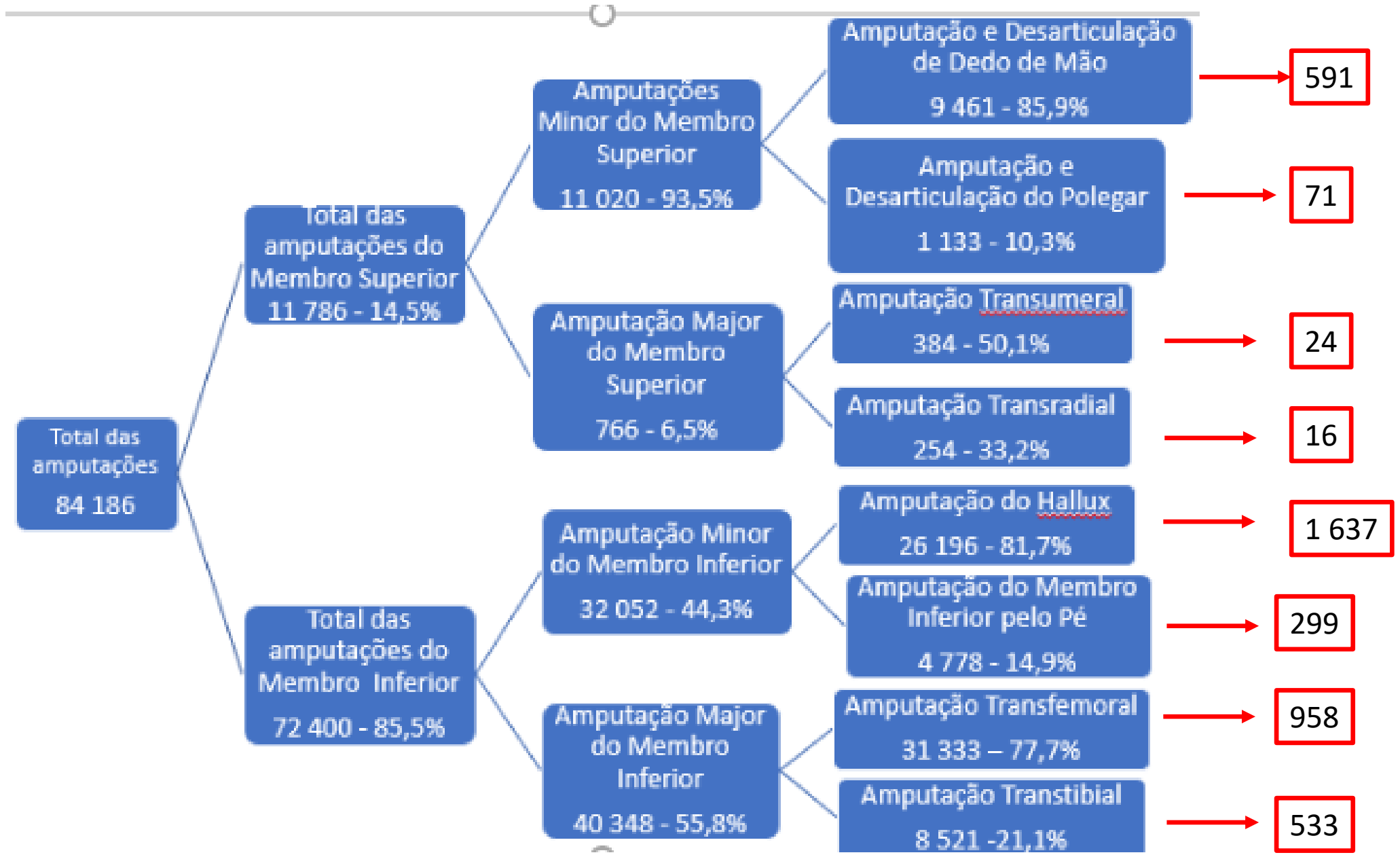


Verificaram-se alterações significativas do número de amputações ao logo dos 16 anos em estudo: GRUPO III (x^2 (15)=244,075, p=0.000); GRUPO VII (x^2(15)=587,762, p=0.000); GRUPO XVII (x^2(15)=58,883,

Níveis e Grupos que mais contribuíram para a alteração significativa das amputações ocorridas no período de 2000 a 2015

	GRUPO				
	III	VII	XVII	TOTAL 16 ANOS	Média Anual
AMPUTAÇÃO DO MEMBRO INFERIOR ACIMA DO JOELHO	8 086	17 868	2 398	31 324	1 958
AMPUTAÇÃO DE DEDO DO PÉ	12 706	8 796	1 473	26 186	1 637
AMPUTAÇÃO ABAIXO DO JOELHO NCOP	3 284	3 292	1 016	8 517	532

O contributo destes 3 grupos para a totalidade das amputações é de 84,77%


Total das amputações
84 186
Total das amputações do Membro Superior
11 786 - 14,5%
Amputações Minor do Membro Superior
11 020 - 93,5%
Amputação e Desarticulação de Dedo de Mão
9 461 - 85,9%
591
Amputação e Desarticulação do Polegar
1 133 - 10,3%
71
Amputação Major do Membro Superior
766 - 6,5%
Amputação Transumeral
384 - 50,1%
24
Amputação Transradial
254 - 33,2%
16
Total das amputações do Membro Inferior
72 400 - 85,5%
Amputação Minor do Membro Inferior
32 052 - 44,3%
Amputação do Hallux
26 196 - 81,7%
1 637
Amputação do Membro Inferior pelo Pé
4 778 - 14,9%
299
Amputação Major do Membro Inferior
40 348 - 55,8%
Amputação Transfemoral
31 333 – 77,7%
958
Amputação Transtibial
8 521 -21,1%
533

Níveis e percentagens de amputação nos EUA 1988-1996

Transtibial -28,12%

Transfemural - 26,08%

Highsmith et al., em 2016 no artigo" Prosthetic interventions for people with transtibial amputation: Systematic review and meta-analysis of high-quality prospective literature and systematic, apresenta os números dos níveis das amputações similares aos meus com um total de amputados (86%) e um total de amputações Transtibiais (28%)

Highsmith, M. J., Kahle, J. T., Miro, R. M., Orendurff, M. S., Lewandowski, A. L., Orriola, J. J., Sutton, B., & Ertl, J. P. (2016). Prosthetic interventions for people with transtibial amputation: Systematic review and meta-analysis of high-quality prospective literature and systematic reviews. *Journal of Rehabilitation Research and Development*, *53*(2), 157–184. https://doi.org/10.1682/JRRD.2015.03.0046

Nielsen, C. C. (2007). Etiology of amputation. In M. J. Lusardi, Micchelle M., Nielsen, Caroline C., Emery (Ed.), *Orthotics and Prosthetics in Rehabilitation* (ª Edition, pp. 519–531). Saunders Elsevier.

Prosthetic Legs

Rs 33670 / Set

By: Speed Runner Artificial L...

Prosthetic BK Artificial Limb

Rs 16000 / Piece

By: J.b.ortho Rehab Centre

Relação de 2.1: 1

Prosthetic Leg Above Knee

Rs 60000 / Piece

By: Orthopaedic Industries

Silicone Artificial Leg

Rs 40000 / Piece

By: Hopes Rehab Healthcare

Relação de 1,5: 1

https://www.indiamart.com/proddetail/

O Financiamento

Despacho 12 370/2007

A Lei 38/2004, de 18 de Agosto, que define as bases gerais do regime jurídico da prevenção, habilitação, reabilitação e participação das pessoas com deficiência, dispõe que compete ao Estado o fornecimento, adaptação, manutenção ou renovação dos meios de compensação que forem adequados, com vista a uma maior autonomia e adequada integração por parte daquelas pessoas.

É em cumprimento deste dever que se torna necessário assegurar a prescrição e o financiamento das ajudas técnicas/tecnologias de apoio às pessoas com deficiência, por forma a facilitar a sua reabilitação médico-funcional e participação a nível social e profissional, através de um sistema supletivo que visa complementar as verbas disponíveis para o efeito dos sistemas sectoriais da saúde, formação profissional, emprego e segurança social, permitindo-se, assim, contribuir para uma melhoria da sua qualidade de vida.

Assim, determina-se o seguinte:

1 - É afecta ao financiamento supletivo de ajudas técnicas/tecnologias de apoio durante o ano de 2007 a verba global de Euro 12 376 339, comparticipada pelos Ministérios da Saúde e do Trabalho e da Solidariedade Social.

Functional Status in Children With Limb Deficiency: Development and Initial Validation of an Outcome Measure

Sheri D. Pruitt, PhD, James W. Varni, PhD, Yoshio Setoguchi, MD

A myoelectrically-operated hand prosthesis for a child with an upper extremity impairment can cost as much as $10,000. Several years ago, prescriptions for these electric components were so common that myoelectric prostheses were considered customary and were prescribed for toddlers as young as 15 months.[2] Over the last few years, however, state Crippled Children's funds and a number of private insurance companies have expressed a growing reluctance to cover the expense associated with these electric limbs.[3]

Conclusion: The CAPP-PSI is a promising assessment instrument for measuring important health outcomes in children with upper or lower limb deficiency.

in functional abilities as well as anecdotal reports of enhanced psychosocial functioning associated with myoelectric devices.[4-6] However, the outcome measures used to evaluate function associated with the prescribing of myoelectric components have not been empirically validated and therefore render previous findings potentially unreliable. For example, previous assess-

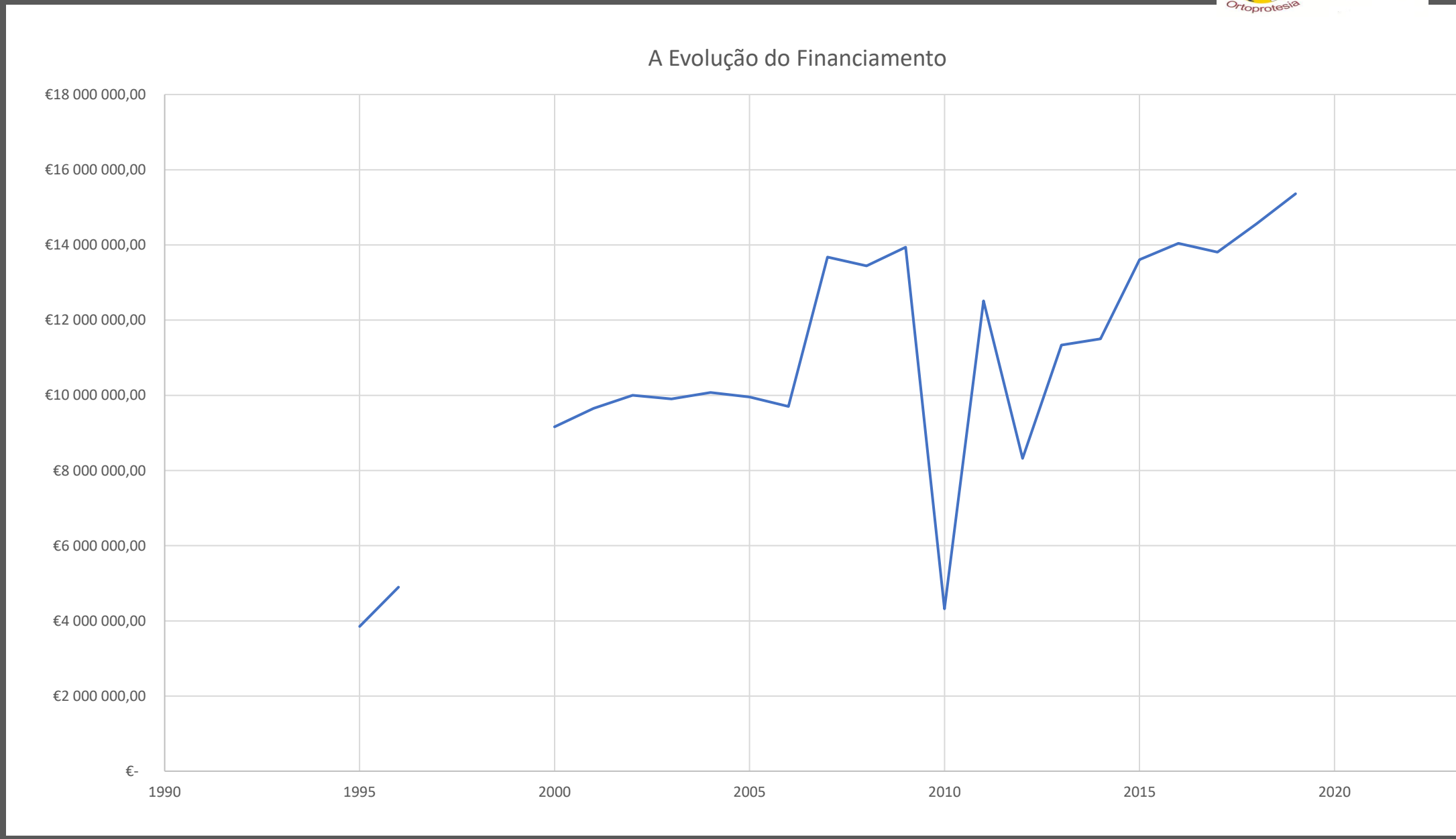
Attempts to determine the functional benefits associated with myoelectric devices for children with limb deficiency have been previously reported in the literature. Comparisons between body-powered limbs with a hook and myoelectric components have been made with clinically observed improvements noted in functional abilities as well as anecdotal reports of enhanced psychosocial functioning associated with myoelectric devices.[4-6]

This article reports the development and initial validation of a new pediatric outcome assessment instrument. The Child Amputee Prosthetics Project–Functional Status Inventory (CAPP-FSI) is a measure of functional abilities in children with upper and lower limb deficiency. It is an inventory of behavioral manifestations of limb deficiency that interfere with childrens' typical activities.

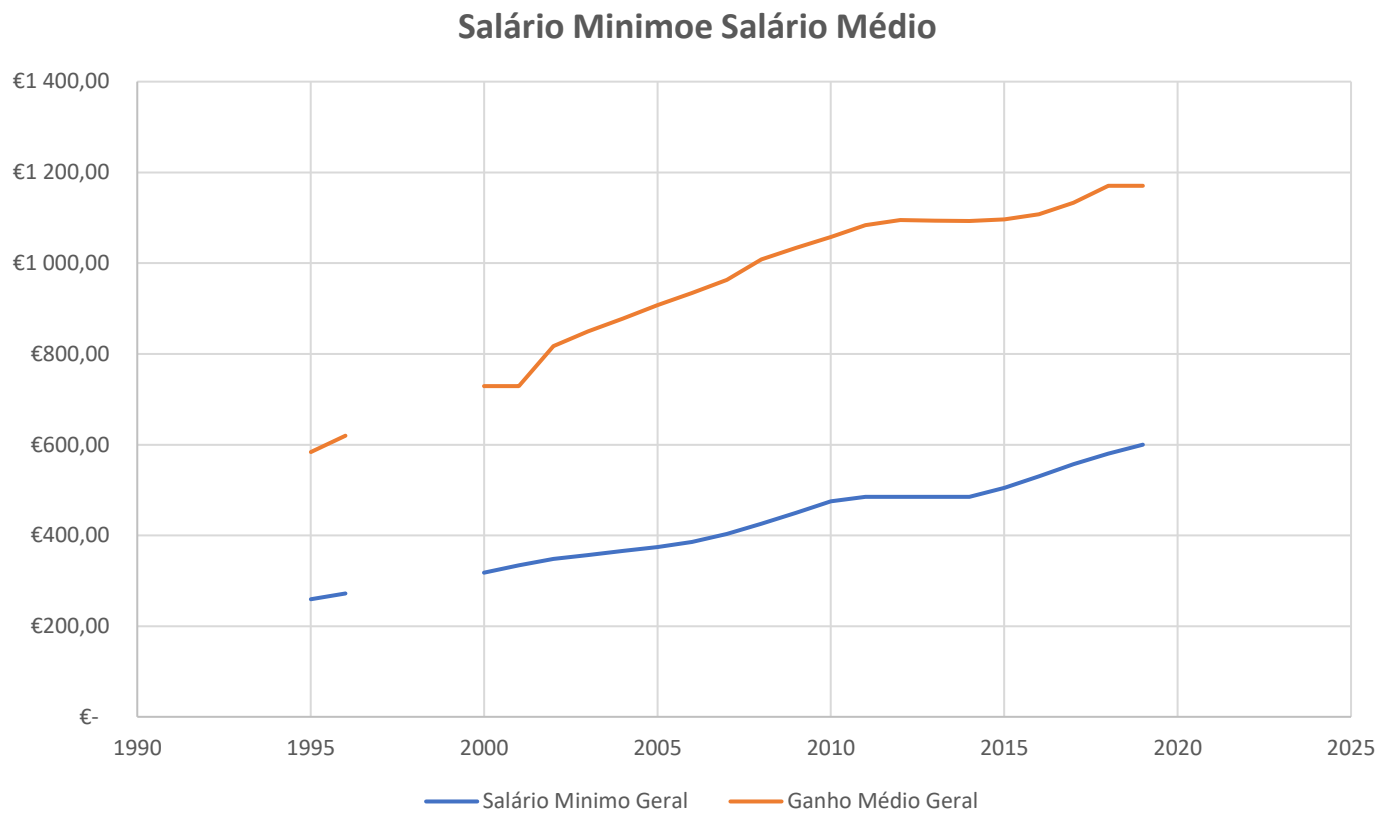
Calculando QALYs: Um Exemplo #2

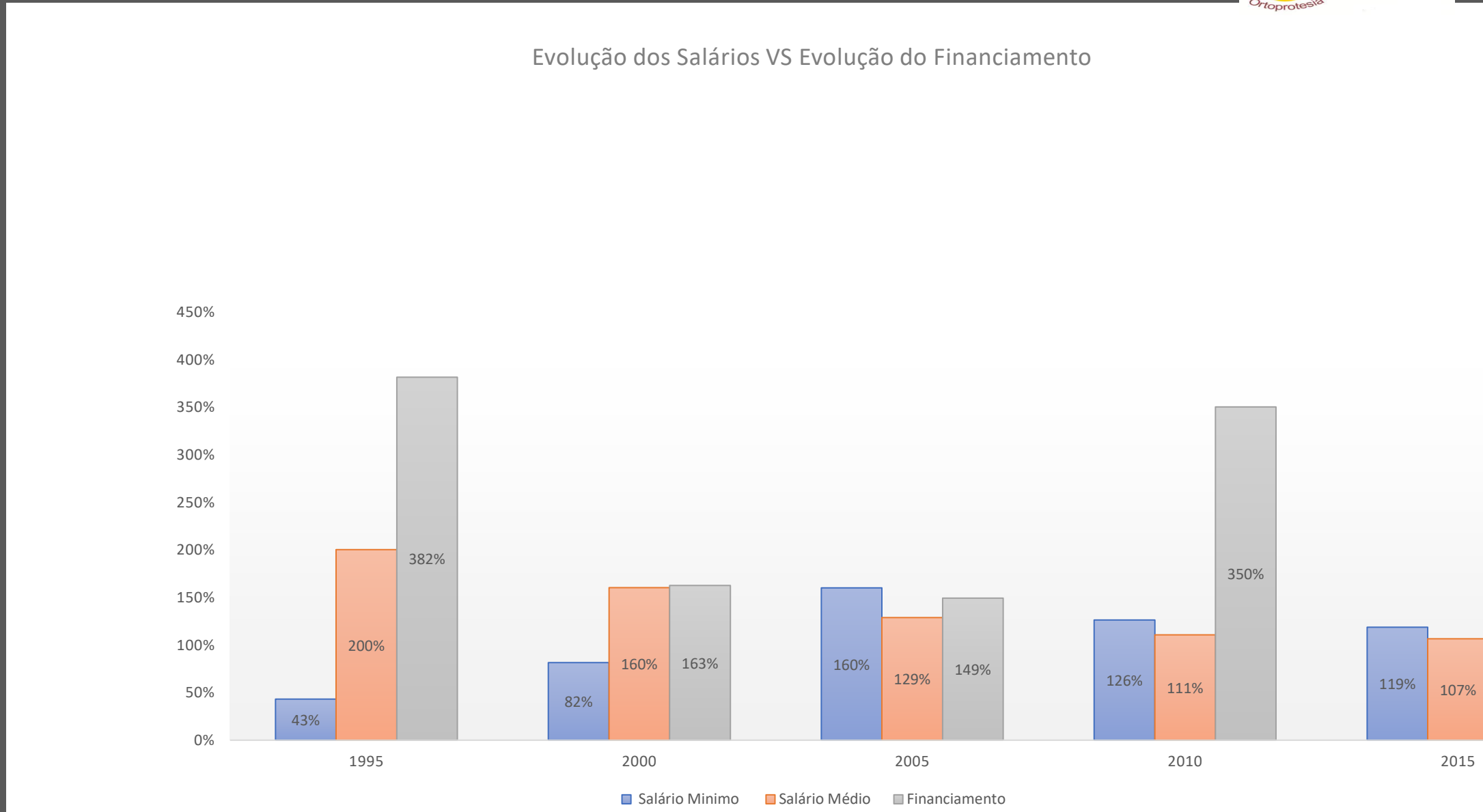
	Custo do tratamento ($)	Anos de vida poupados	Utilidade de cada ano de vida poupado	QALY
Medicamento A	$10.000	5	0,8	4,0
Medicamento B	$20.000	7	0,5	3,5
	Cálculo		Resultado	
AVAQACE	($20.000-10.000)/(7anos -5 anos)		$5.000 por anos de vida extra	
ACU	($20.000-10.000)/(3,5AVAQS – 4,0 AVAQs)		Medicamento A dominante	

Ano	Valor Escudos	Valor Euros	Inflação	aumento de:	Redução da Inflação	Valor real de:	Nos Dias de Hoje
1995	500 000 000$	2 493 989,00 €	4,2%		104 747,54 €	2 389 241,46 €	4 024 051,25 €
1996	650 000 000$	3 242 186,33 €	3,1%	748 197,33 €	100 507,78 €	3 141 678,55 €	5 053 595,83 €
2000	1 350 000 000$	6 733 771,61 €	2,9%		195 279,38 €	6 538 492,23 €	9 438 054,29 €
2001	1 500 000 000$	7 481 968,46 €	4,4%	748 196,85	329 206,61 €	7 152 761,85 €	10 095 420,04 €
2002		7 980 766,35 €	3,6%	498 797,89	287 307,59 €	7 693 458,76 €	10 376 592,41 €
2003		8 180 285,00 €	3,2%	199 518,65	261 769,12 €	7 918 515,88 €	10 230 264,42 €
2004		8 450 235,00 €	2,4%	269 950,00	202 805,64 €	8 247 429,36 €	10 323 652,10 €
2005		8 619 240,00 €	2,3%	169 005,00	198 242,52 €	8 420 997,48 €	10 275 857,93 €
2006		8 619 240,00 €	3,1%	0,00	267 196,44 €	8 352 043,56 €	10 017 280,73 €
2007		12 376 339,00 €	2,5%	3 757 099,00	309 408,48 €	12 066 930,53 €	14 031 055,52 €
2008		12 500 000,00 €	2,6%	123 661,00	325 000,00 €	12 175 000,00 €	13 800 000,00 €
2009		12 620 000,00 €	-0,8%	120 000,00	- 100 960,00 €	12 720 960,00 €	13 827 734,00 €
2010		4 000 000,00 €	1,4%	-8 620 000,00	56 000,00 €	3 944 000,00 €	4 384 800,00 €
2011		12 154 091,00 €	3,7%	8 154 091,00	449 701,37 €	11 704 389,63 €	12 991 507,87 €
2012		8 301 820,00 €	2,8%	-3 852 271,00	232 450,96 €	8 069 369,04 €	8 564 157,51 €
2013		11 540 000,00 €	3,0%	3 238 180,00	346 200,00 €	11 193 800,00 €	11 687 712,00 €
2014		11 300 000,00 €	-0,3%	-240 000,00	- 33 900,00 €	11 333 900,00 €	11 469 500,00 €
2015		13 480 000,00 €	0,5%	2 180 000,00	67 400,00 €	13 412 600,00 €	13 678 156,00 €
2016		13 980 000,00 €	0,6%	500 000,00	83 880,00 €	13 896 120,00 €	14 126 790,00 €
2017		13 980 000,00 €	1,4%	0,00	195 720,00 €	13 784 280,00 €	14 002 368,00 €
2018		14 900 000,00 €	1,0%	920 000,00	149 000,00 €	14 751 000,00 €	14 710 770,00 €
2019		15 360 000,00 €	0,3%	460 000,00	46 080,00 €	15 313 920,00 €	15 360 000,00 €


A Evolução do Financiamento
€18 000 000,00
€16 000 000,00
€14 000 000,00
€12 000 000,00
€10 000 000,00
€8 000 000,00
€6 000 000,00
€4 000 000,00
€2 000 000,00
€-
1990
1995
2000
2005
2010
2015
2020

Ano	Salário Minimo Geral	Ganho Médio Geral
1995	259,40 €	584,00 €
1996	272,30 €	619,70 €
2000	318,20 €	729,40 €
2001	334,20 €	729,40 €
2002	348,00 €	817,40 €
2003	356,60 €	849,60 €
2004	365,60 €	877,50 €
2005	**374,70 €**	907,20 €
2006	**385,90 €**	934,00 €
2007	**403,00 €**	963,30 €
2008	**426,00 €**	1 008,00 €
2009	**450,00 €**	1 034,00 €
2010	**475,00 €**	1 057,30 €
2011	**485,00 €**	1 083,80 €
2012	**485,00 €**	1 094,70 €
2013	**485,00 €**	1 093,30 €
2014	**485,00 €**	1 093,20 €
2015	**505,00 €**	1 096,70 €
2016	**530,00 €**	1 107,90 €
2017	**557,00 €**	1 133,30 €
2018	**580,00 €**	1 170,30 €
2019	**600,00 €**	1 170,30 €




Evolução dos Salários VS Evolução do Financiamento
450%
400%
350%
300%
250%
200%
150%
100%
50%
0%
43%
200%
382%
82%
160%
163%
160%
129%
149%
126%
111%
350%
119%
107%
1995
2000
2005
2010
2015
Salário Minimo
Salário Médio
Financiamento

Prosthetic Leg Cost

How Much Does a Prosthetic Leg Cost?

With Health Insurance: Copays + 10%-50% Coinsurance

Without Health Insurance: $10,000-$70,000+

A prosthetic leg can be used when a patient has had part or all of a leg amputated, often due to diabetes or an injury. Prosthetic legs range from basic devices that allow a patient to walk on a flat surface to computerized legs that allow patients to run or engage in extreme sports.

Typical costs:

- For patients with health insurance, out-of-pocket costs typically consist of doctor visit copays and coinsurance of 10%-50%. All types of prosthetic legs typically are covered by health insurance, but the particular leg that will be covered usually depends on the individual patient's amputation level, condition and needs. For example, The BlueCross BlueShield of North Carolina policy for lower-limb prostheses[1] states that myoelectric, or computer-controlled, prosthetic legs would be covered for patients who have the physical strength and demonstrated need to move for long distances at variable rates of speed or over uneven terrain. A basic prosthetic leg might be covered for a homebound individual who needs to move around the house.
- For patients without health insurance, a prosthetic leg typically costs less than **$10,000** for a basic prosthetic leg up to **$70,000** or more for a more advanced computerized prosthetic leg controlled by muscle movements. Costs depend on the type of leg and the level of amputation.
- For example, according to a white paper[2] from the Bioengineering Institute Center for Neuroprosthetics, at the Worcester Polytechnic Institute, a basic below-the-knee prosthetic that would allow a patient to walk on flat ground costs **$5,000-$7,000,** while one that would allow the patient to walk on stairs and bumpy ground could cost **$10,000**. For a device that would allow a patient to walk and run as well as a non-amputee, the cost could go up to **$15,000**. Prosthetics with special hydraulic or mechanical systems that allow for movement control can cost more than **$15,000**. And a computer-assisted prosthetic leg costs **$20,000** or more. According to Brown University, the C-Leg computerized prosthetic leg[3] by Otto-Bock, for above-the-knee amputees, can cost as much as **$50,000,** or up to **$70,000** or more, including the prosthetic foot.
- A prosthetic leg likely will need to be replaced several times during a patient's lifetime, and patients need ongoing adjustments. A Department of Veterans Affairs study[4] showed the average lifetime cost for prosthetics and medical care for loss of a single leg for a veteran of the Iraq or Afghanistan wars was more than **$1**.4 million.

Related articles: Physical Therapy, Occupational Therapy, Health Insurance

What should be included:

- A few weeks or months after amputation surgery, the patient meets with a prosthetist, a health

Prosthetic Arm Cost

How Much Does a Prosthetic Arm Cost?

With Health Insurance: Copays + 10%-50% Coinsurance

Without Health Insurance: $5,000-$100,000+

A prosthetic arm, which can be cosmetic or functional, can be used when a patient has part or all of an arm amputated, usually due to an injury or other trauma.

Typical costs:

- For patients with health insurance, out-of-pocket costs typically consist of doctor visit copays and coinsurance of 10%-50%. All types of prosthetic arms typically are covered by health insurance. However, coverage for certain types of prosthetics typically depends on the amputation level and the patient's physical condition. For example, according to the BlueCross BlueShield of Mississippi upper limb prosthesis policy[1] , a myoelectric, or computer-controlled limb would be covered only when certain conditions are met. For example, the limb must be amputated at the wrist or above, the patient must have an activity level and specific needs that require the use of this type of prosthetic to perform daily activities. A body-powered prosthesis, controlled by body movements, would be covered for an individual for whom this prosthesis would be adequate to allow them to perform their daily activities, or an individual who does not meet the requirements for a myoelectric prosthesis.
- For patients without health insurance, a prosthetic arm typically costs less than **$5,000** for a purely cosmetic arm, up to **$10,000** for a functional prosthetic arm that ends in a split hook, and up to **$20,000-$100,000** or more for an advanced myoelectric arm, controlled by muscle movements, with a functioning artificial hand.
- For example, according to a white paper[2] from the Bioengineering Institute Center for Neuroprosthetics, at the Worcester Polytechnic Institute, the cost of a prosthetic arm varies by the type of arm and the level of amputation. For example, a cosmetic arm and hand might cost **$3,000-$5,000**. A functional prosthetic arm with a "split hook" at the end might cost **$10,000**. A myoelectric prosthetic arm with a realistic-looking, functioning hand might cost **$20,000- $30,000** or more.
- According to a Department of Veterans Affairs study[3] , average cost of a myoelectric prosthetic arm depended partly on the level of limb loss. A myoelectric prosthetic for partial loss of a hand cost **$18,703**; up to the middle of the lower arm, **$20,329**; up to the middle of the upper arm, **$59,664** and up to the shoulder, **$61,655**. At the University of California-San Francisco Medical Center, a very advanced myoelectric prosthetic arm[4] costs about **$100,000**.
- Thought-controlled arms that are surgically implanted and attached to nerves are not widely available and are very expensive. For example, a man who lost both arms due to electrical shock received experimental thought-controlled arms at a cost of **$6** million.
- A prosthetic arm likely will have to be replaced several times during the patient's lifetime. A study[5]

Today's Featured Cost Articles


If you want a spring or summer wedding, now it the time to pin down the location.


It's not too late for a flu shot.


What would a personal trainer cost to reach those New Year's resolutions?


If joining a gym was one of those resolutions, how much will it cost?


Need help uncovering your driveway? You may need a snow removal service.

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CostHelper Community

Ps2

Prosthetic Legs

Rs 33670 / Set

By: Speed Runner Artificial L...

Prosthetic BK Artificial Limb

Rs 16000 / Piece

By: J.b.ortho Rehab Centre

Relação de 2.1: 1

Prosthetic Leg Above Knee

Rs 60000 / Piece

By: Orthopaedic Industries

Silicone Artificial Leg

Rs 40000 / Piece

By: Hopes Rehab Healthcare

Relação de 1,5: 1

https://www.indiamart.com/proddetail/

Outras Razões para Medir

ANEXO VIII

(a que se refere o n.º 4 do artigo 5.º)

Declaração relativa aos dispositivos para fins específicos

1 — O fabricante, ou o seu mandatário deve elaborar, em relação aos dispositivos feitos por medida ou aos dispositivos destinados a investigações clínicas, uma declaração.

2.2.8 — O parecer da comissão de ética para a saúde competente;

2.2.9 — A identificação do médico ou da equipa de investigação autorizada e da instituição ou centro de investigação encarregue das investigações;

2.2.10 — O local em que se efectuam as investigações, bem como as respectivas datas de início e duração previsíveis;

2.2.11 — A declaração de que o dispositivo em questão está conforme com os requisitos essenciais, com excepção dos aspectos objecto das investigações, e a garantia de que, quanto a estes últimos, foram tomadas todas as precauções para proteger a saúde e a segurança do doente.

3 — O fabricante comprometer-se-á a manter à disposição da autoridade competente:

3.1 — No que se refere aos dispositivos feitos por medida, documentação que indique o local ou locais de fabrico e permita compreender a concepção, o fabrico e o desempenho funcional do produto, incluindo o nível de funcionamento previsto, de modo a permitir a avaliação da sua conformidade com os requisitos do presente decreto-lei;

3.1.1 — O fabricante toma todas as medidas necessárias para que o processo de fabrico assegure a conformidade dos produtos fabricados com a documentação referida no n.º 3.1;

3.2 — No caso dos dispositivos destinados a investiga-

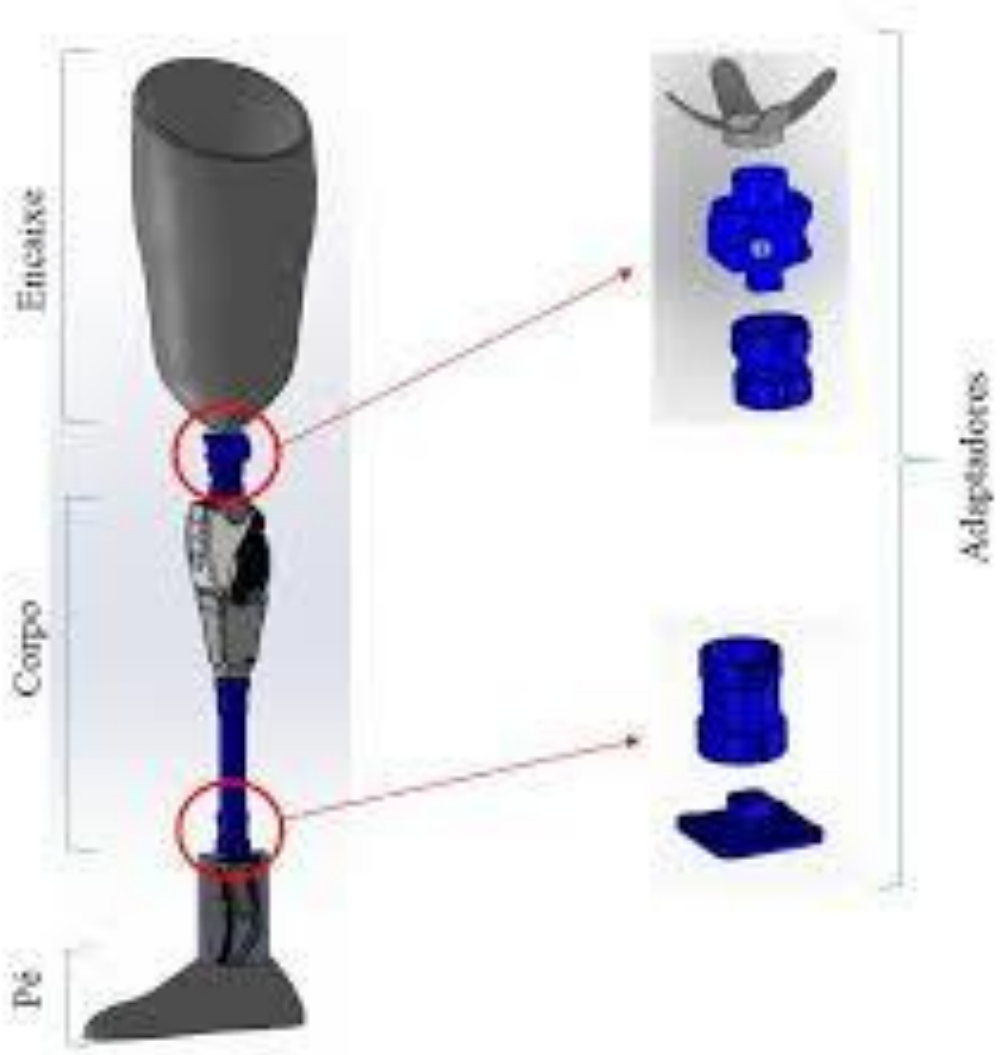
n.º 3.1;

3.2.9 — O fabricante autoriza a avaliação ou, se for caso disso, a verificação da eficácia dessas medidas através de auditoria.

4 — As informações contidas nas declarações referidas no presente anexo devem ser conservadas durante um período mínimo de 5 anos ou, no caso dos dispositivos implantáveis, de 15 anos.

5 — Em relação aos dispositivos feitos por medida, o fabricante compromete-se a analisar e documentar a experiência adquirida na fase de pós-produção, incluindo as disposições referidas no anexo XVI, e a desenvolver meios adequados de aplicação de quaisquer medidas correctivas necessárias, compromisso que inclui a obrigação de o fabricante informar a autoridade competente sobre os incidentes, referidos no artigo 27.º do presente decreto-lei, assim que deles tiver conhecimento.

/http://www.ambrito.pt/produto/chave-sextavada-interior



https://repositorium.sdum.uminho.pt/bitstream/1822/34099/1/tese%20versao%20final.pdf

Exemplos Práticos

CASE REPORT

Using Clinically Relevant Outcome Measures to Assess the Ambulatory Efficiency, Balance Confidence, and Overall Function Associated With "Stubby" Prostheses and C-Leg Prostheses for a Patient With Bilateral Transfemoral Prostheses

Randy Carson, DPT, Phillip M. Stevens, MEd, CPO, Joseph B. Webster, MD, K. Bo Foreman, PT, PhD

ABSTRACT

Several factors influence which prosthetic solutions are most appropriate for patients with multiple limb loss. We present a case subject with left transhumeral and bilateral transfemoral amputations who possessed the ability to ambulate effectively with both stubby and C-leg prostheses and could interchange the two prosthetic systems according to her needs and preferences. The Physiologic Cost Index, Activities-specific Balance Confidence Scale, and the Canadian Occupational Performance Measure were used to quantify the gait efficiency, balance confidence, and general functional abilities experienced in the two prosthetic systems. The stubbies were consistently associated with better outcomes across all three indices. These findings help explain the subject's general preference for the stubby prostheses over the C-legs for most activities. (*J Prosthet Orthot.* 2010;22:140–144.)

KEY INDEXING TERMS: transfemoral amputation, stubbies, outcomes assessment, balance confidence, energy

"The subject received extensive and regular physical therapy from the time of her initial amputation through the data collection described, approximately 3 years later. Her initial prostheses were shortened prosthetics without knee joints, commonly known as "stubbies."1,2 Later in her rehabilitation, the subject also received and excelled at gait training with the use of microprocessor-regulated C-legs (Otto Bock)."

PHYSIOLOGIC COST INDEX

The PCI was used to quantify the differences in energy expenditure.

The subject walked along a predetermined course that included smooth level surfaces, uneven concrete, grass, undulating smooth concrete, smooth descents, smooth off-camber descents, and smooth concrete ascents. The total distance of the trial was 3,000 feet. This allowed a collection of 60 heart rate measurements.

Walking heart rate resting heart rate/meters per minute walking pace.

Carson, R., Stevens, P. M., Webster, J. B., & Foreman, K. B. (2010). Using Clinically Relevant Outcome Measures to Assess the Ambulatory Efficiency, Balance Confidence, and Overall Function Associated With "Stubby" Prostheses and C-Leg Prostheses for a Patient With Bilateral Transfemoral Prostheses. *JPO Journal of Prosthetics and Orthotics*, *22*(2), 140–144. https://doi.org/10.1097/JPO.0b013e3181d39a52

BALANCE CONFIDENCE

The ABC scale - Activities Specific Balance Confidence, used to assess a subject's perception of their own balance confidence in the performance of defined daily activities.

The ABC is a 16-item questionnaire in which the subject rates their confidence that they will not fall on a scale between 0% (no confidence) and 100% (total confidence) when performing a variety of upright activities with varying degrees of difficulty.

FUNCTION

The COPM-Canadian Occupational Performance Measure, was used to help the subject prioritize and objectify the importance of her activities of daily living.

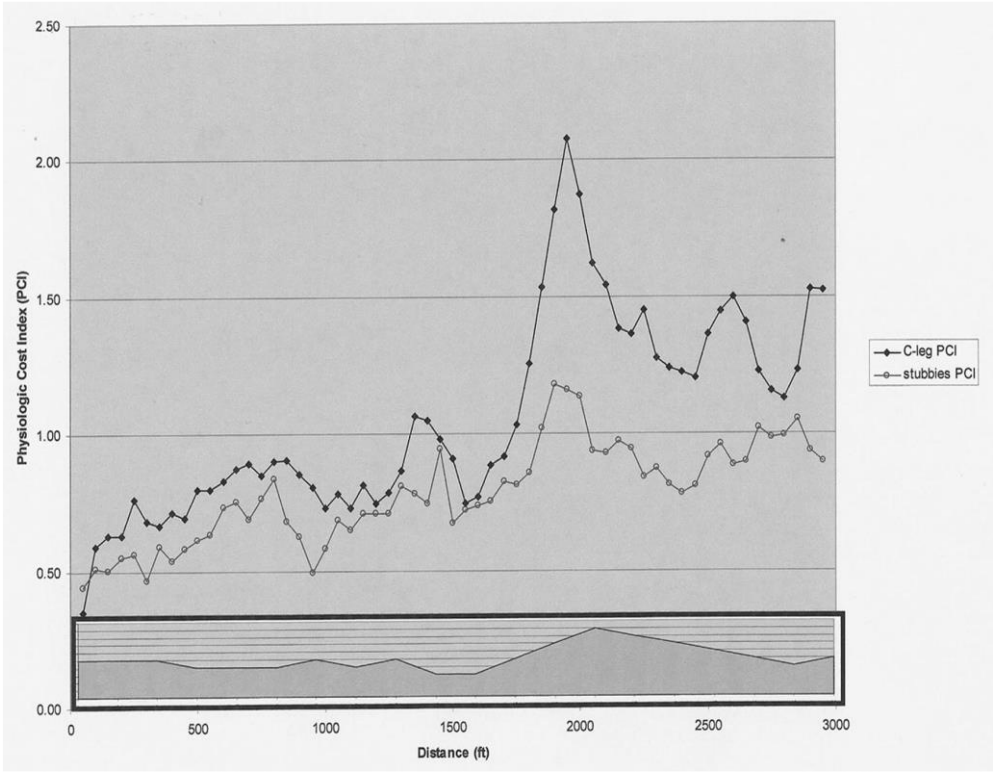
The tool is used to prioritize the most meaningful functional needs of an individual. It is divided into three main areas: self-care, productivity, and leisure. The patient identifies subcategories and functional activities across these three domains until a total of 27 functional activities have been recorded.

Carson, R., Stevens, P. M., Webster, J. B., & Foreman, K. B. (2010). Using Clinically Relevant Outcome Measures to Assess the Ambulatory Efficiency, Balance Confidence, and Overall Function Associated With "Stubby" Prostheses and C-Leg Prostheses for a Patient With Bilateral Transfemoral Prostheses. *JPO Journal of Prosthetics and Orthotics*, *22*(2), 140–144. https://doi.org/10.1097/JPO.0b013e3181d39a52

EFFICIENCY

The subject was found to have a significantly lower heart rate when walking with stubbies (*p* 0.01). Her average heart rate was 96.33 6.48 bpm (peak: 110 bpm) with stubbies and 110 13.34 bpm (peak:143 bpm) with C-legs (Figure 1). This translates to a PCI of 0.78 .18 and 1.06 0.36, respectively (Figure 2). The subject completed the walk 3 min 40 sec faster with the C-legs (stubbies: 27:26 min; C-legs: 23:46 min). Despite this increase in speed while walking with the C-legs, the subject was found to have a significantly
lower PCI when walking with the stubbies (*p* 0.01).

Carson, R., Stevens, P. M., Webster, J. B., & Foreman, K. B. (2010). Using Clinically Relevant Outcome Measures to Assess the Ambulatory Efficiency, Balance Confidence, and Overall Function Associated With "Stubby" Prostheses and C-Leg Prostheses for a Patient With Bilateral Transfemoral Prostheses. *JPO Journal of Prosthetics and Orthotics*, *22*(2), 140–144. https://doi.org/10.1097/JPO.0b013e3181d39a52



BALANCE CONFIDENCE

The subject reported a higher level of balance confidence with stubbies versus C-legs. The subject averaged an overall confidence rating (range: 0–100) on the ABC of 84.33 25.97 with stubbies and 43.33 27.69 with C-legs. The subject rated her confidence in all categories higher with stubbies compared with C-legs with the exception of “Standing on a chair and reach for something,” which the subject graded her confidence at 0 with both prostheses.

FUNCTION

The subject was shown to have a higher performance rating and satisfaction with performance rating with stubbies versus C-legs. The domains identified by the subject and the associated ratings for each prosthetic system are presented in Table 1. The subject averaged an overall performance rating (range: 1–10) on the COPM of 8.00 1.73 with stubbies and 3.80 1.10 with C-legs. The subject averaged an overall satisfaction with performance rating (range: 1–10) on the COPM of 7.20 2.05 with stubbies and 4.60 1.82 with C-legs.

Avaliação e Medição da Funcionalidade de uma prótese mioelétrica

Mão Digital Twin® (Mão da esquerda) e SensorHand Speed®

OBRIGADA