Raphael Moura de Abreu Souza

Reabilitação estética da cavidade anoftálmica em paciente portador de síndrome de Down

Brasília
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Trabalho de Conclusão de Curso apresentado ao Departamento de Odontologia da Faculdade de Ciências da Saúde da Universidade de Brasília, como requisito parcial para a conclusão do curso de Graduação em Odontologia.

Orientadora: Profa. Dra. Aline Úrsula R. Fernandes

Brasília
2015

À minha família.

AGRADECIMENTOS

Agradeço em primeiro lugar a Deus que iluminou o meu caminho durante esta caminhada.

Aos meus pais, minha irmã e a toda minha família que, com muito carinho e apoio, não mediram esforços para que eu chegasse até esta etapa de minha vida.

Agradeço também a todos os professores que foram imprescindíveis na minha vida acadêmica pela paciência em ensinar.

À professora, orientadora e grande amiga , Aline Úrsula, pela imensa paciência na orientação, carinho e incentivo durante toda minha graduação e em especial na confecção deste trabalho.

EPÍGRAFE

“O único lugar aonde o sucesso vem antes do trabalho é no dicionário.”
Albert Einstein

RESUMO

SOUZA, Raphael Moura de Abreu. Reabilitação estética da cavidade anoftálmica em paciente portador de síndrome de Down. 2015. Trabalho de Conclusão de Curso (Graduação em Odontologia) – Departamento de Odontologia da Faculdade de Ciências da Saúde da Universidade de Brasília.

O conceito de estética designa uma dimensão da experiência e da ação humana que permite caracterizar algo como belo, sublime ou, então, como feio, desagradável. A perda de um olho pode afetar esse conceito filosófico de função e estética facial, mas também a interação do indivíduo com a sociedade, assim abrindo portas para distúrbios psicossociais. No presente trabalho, foram apresentados os passos da confecção de uma prótese ocular, envolvendo as etapas clínicas e laboratoriais, com os diferenciais no atendimento de paciente portador da síndrome de Down e o impacto que a reabilitação causou na vida do mesmo. Proporcionou ao paciente, que além do defeito facial, é portador de síndrome que limita sua vida como indivíduo saudável, conforto social, proteção da cavidade ocular e reabilitação fisiológica**.** Ao fim do tratamento, concluímos que a prótese ocular eleva o nível de qualidade de vida dos seus usuários.

ABSTRACT

SOUZA, Raphael Moura de Abreu. Aesthetic rehabilitation of anophthalmic cavity in patients with Down syndrome. 2015. Undergraduate Course Final Monograph (Undergraduate Course in Dentistry) – Department of Dentistry, School of Health Sciences, University of Brasília.

The concept of aesthetics designate a dimension of the experience and of human action, that allow to characterize something beautiful, sublime or ugly, unpleasant then. The loss of one eye can effect this philosophical concept of facial aesthetics, but also, the interaction of the individual with society, opening doors for psychosocial disorders. In this paper was presented the steps of making an ocular prosthesis, including the clinic and laboratory steps, with the differentials in attendance of patient with Down syndrome and the impact that the rehabilitation caused on its life. At the end of the treatment, we concluded that the ocular prosthesis increases the level of life quality of its users.

SUMÁRIO

ARTIGO CIENTÍFICO

Este trabalho de Conclusão de Curso é baseado no artigo científico:

SOUZA, Raphael Moura de Abreu. Reabilitação estética da cavidade anoftálmica em paciente portador de síndrome de Down. 2015. Apresentado sob as normas de publicação da Revista Prosthetics and Orthotics International.

FOLHA DE TÍTULO

Reabilitação estética da cavidade anoftálmica em paciente portador da síndrome de Down

Aesthetic rehabilitation of anophthalmic cavity in patient with Down syndrome

Raphael Moura de Abreu Souza[1]
Aline Úrsula Rocha Fernandes[2]

[1] Aluno de Graduação em Odontologia da Universidade de Brasília.
[2] Professora Adjunta de Prótese Dentária da Universidade de Brasília (UnB).

Correspondência: Prof. Dra. Aline Úrsula R. Fernandes
Campus Universitário Darcy Ribeiro - UnB - Faculdade de Ciências da Saúde - Departamento de Odontologia - 70910-900 - Asa Norte - Brasília - DF
E-mail: alineursula@gmail.com Telefone: (61) 3107-1802

RESUMO

Reabilitação estética da cavidade anoftálmica em paciente portador da síndrome de Down

Resumo

Introdução: O conceito de estética designa uma dimensão da experiência e da ação humana que permite caracterizar algo como belo, sublime ou, então, como feio, desagradável. A perda de um olho pode afetar esse conceito filosófico de função e estética facial, mas também a interação do indivíduo com a sociedade, assim abrindo portas para distúrbios psicossociais.
Descrição do caso e métodos: No presente trabalho, foram apresentados os passos da confecção de uma prótese ocular, envolvendo as etapas clínicas e laboratoriais, com os diferenciais no atendimento de paciente portador da síndrome de Down e o impacto que a reabilitação causou na vida do mesmo.
Resultados: Proporcionou ao paciente, que além do defeito facial, é portador de síndrome que limita sua vida como indivíduo saudável, conforto social, proteção da cavidade ocular e reabilitação fisiológica**.**
Conclusão: Ao fim do tratamento, concluímos que a prótese ocular eleva o nível de qualidade de vida dos seus usuários.
Relevância clínica: Reconstruir a estética, embelezar o rosto cuja harmonia está comprometida, promover a sustentação e a tonicidade muscular palpebral, além restabelecer o bem-estar psicossocial.

Palavras-chave:

Prótese maxilofacial; Olho artificial; Síndrome de Down

ABSTRACT

Aesthetic rehabilitation of anophthalmic cavity in patient with Down syndrome

Abstract

Introdution: The concept of aesthetics designate a dimension of the experience and of human action, that allow to characterize something beautiful, sublime or ugly, unpleasant then. The loss of one eye can effect this philosophical concept of facial aesthetics, but also, the interaction of the individual with society, opening doors for psychosocial disorders.
Case Description and Methods: In this paper was presented the steps of making an ocular prosthesis, including the clinic and laboratory steps, with the differentials in attendance of patient with Down syndrome and the impact that the rehabilitation caused on its life.
Results: It provides the patient, which in addition to the facial defect, presents a syndrome that limits its life as a healthy individual, social comfort, the protection of the eye socket and, physiological rehabilitation.
Conclusion: At the end of the treatment, we concluded that the ocular prosthesis increases the level of life quality of its users.
Clinical Relevance: Rebuilding aesthetics, beautify the face whose harmony was compromised to promote and support the eyelid muscle tone, as well restore the psychosocial well-being.

Keywords:

Maxillofacial prosthesis; Artificial eye; Down's syndrome.

INTRODUÇÃO

A atual sociedade é caracterizada pela supervalorização das questões individuais, pela renovação permanente e pelo culto às aparências (1). A perda de um dos olhos (visão monocular adquirida) representa situação de extremo constrangimento para o paciente, assim, podendo desencadear diversos problemas que se refletem na conduta social do indivíduo mutilado. O paciente anoftálmico pode apresentar grandes dificuldades em estabelecer vínculos afetivos, de organizar a vida frente às novas condições, sentimentos de inferioridade e rejeição em relação à convivência (2).

Portadores de anoftalmia, seja ela congênita ou adquirida por trauma ou patologia, quase sempre, apresentam algum grau de desequilíbrio emocional, já que raramente passam despercebidos. Onde quer que se encontrem; são observados com curiosidade ou receio, o que faz com que se sintam socialmente inferiores e incapazes, passando a ter dificuldades no relacionamento social (3).

Nos serviços de atendimento a pacientes especiais de Prótese Maxilofacial, a maior demanda é para prótese ocular, devido ao grande número de lesões nessa região da face (4).

Uma prótese ocular, quando confeccionada de forma adequada, recupera a estética facial, previne o colapso e deformidade das pálpebras, protege a cavidade anoftálmica contra injúrias provocadas por corpos estranhos (poeira, fumaça e outros), restaura a direção correta da secreção lacrimal e mantém o tônus muscular, evitando alterações de simetria que, de outra forma, se instalam progressivamente (5).

A Síndrome de Down (SD) ou trissomia do 21 é uma condição humana geneticamente determinada, é a alteração cromossômica mais comum em humanos e a principal causa de deficiência intelectual na população. A SD é um modo de estar no mundo que demonstra a diversidade humana. A presença do cromossomo 21 extra na constituição genética determina

características físicas específicas e atraso no desenvolvimento. Sabe-se que as pessoas com SD, quando atendidas e estimuladas adequadamente, têm potencial para uma vida saudável e plena inclusão social (6).

As diferenças entre as pessoas com SD, tanto em características físicas quanto as de desenvolvimento, decorrem de aspectos genéticos individuais, intercorrências clínicas, nutrição, estimulação, educação, contexto familiar, social e meio ambiente (6).

O atendimento ao portador de síndrome de Down se distingue, em sua maioria, pelo diferencial no que tange ao manuseio, tendo em vista o retardo psicomotor, ou seja, a incompatibilidade da idade cronológica em relação à idade mental. Dessa forma, para a reabilitação ocular desse indivíduo, é preciso considerar tais aspectos para a implementação dos métodos da Odontopediatria (6), é importante salientar o auxílio dos conhecimentos teóricos e técnicos derivados da psicologia clínica da saúde, pois a prótese não pode ser interpretada pelo paciente como algo ameaçador e hostil, mas sim como parte de uma reabilitação segura e efetiva.

O objetivo do presente trabalho foi relatar a reabilitação ocular, por meio de prótese ocular estética individualizada, confeccionada em resina termopolimerizável, e os diferenciais no atendimento do paciente portador de síndrome de Down.

DESCRIÇÃO DE CASO E MÉTODOS

Paciente com 15 anos de idade, sexo masculino, portador da síndrome de Down, foi levado ao Serviço de Prótese Maxilofacial do Hospital Universitário de Brasília, a fim de obter reabilitação facial estética, após insucesso na cirurgia de transplante de córnea, o que acarretou a retirada do bulbo ocular direito (Figura 1). A confecção da prótese ocular externa foi

iniciada após 3 meses de recuperação cirúrgica, acompanhada da liberação oftalmológica.

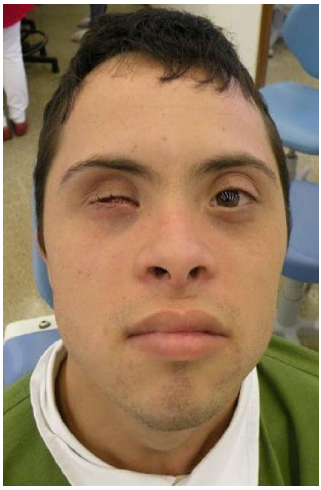

Figura 1 – Paciente sindrômico, apresentando ausência do bulbo ocular direito

Pelos relatos da mãe do paciente, o mesmo havia iniciado quadro de depressão (7), pois no ambiente escolar a ausência da estética ocular o deixava em uma situação de grande constrangimento e exposição perante os colegas, desencadeando exclusão social.

Inicialmente, devido ao fato de ser atendimento a paciente sindrômico e sem experiência prévia com uso de prótese ocular, optou-se pela técnica de prova e adaptação de escleras pré-fabricadas, que poderiam ter seu volume e contorno modificados pelo acréscimo de cera utilidade ou redução de resina acrílica, para dissimulação fiel ao contorno do olho. Para isso, foi aplicado na cavidade anoftálmica anestésico oftalmológico (cloridrato de tetracaína 1%), para maior conforto do paciente durante a manipulação dos materiais que seriam inseridos na cavidade, seleção de tamanho ideal da esclera confeccionada com resina acrílica termopolimerizável (Cor no 1, A.O.Clássico, Brasil) e reembasamento com cera (Figura 2).

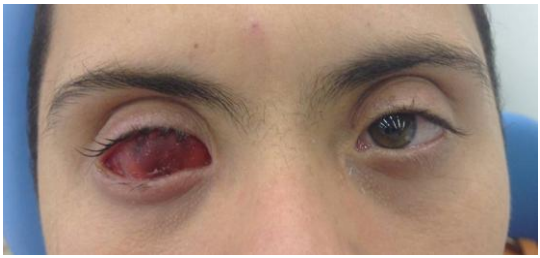

Figura 2 – Reembasamento da esclera de resina acrílica com cera.

A segunda técnica, a qual se baseia na utilização de materiais elásticos para moldagem da cavidade, foi descartada devido ao fato de ser mais invasiva, bem como de ser necessária a cooperação do paciente, para que, durante a moldagem, realizasse movimentos oculares, com o objetivo de se obter detalhes da musculatura em movimento.

Durante a prova estética e funcional da esclera artificial, observaram-se o volume ocular, a abertura palpebral e os movimentos oculares. Enquanto a esclera estava posicionada no interior da cavidade anoftálmica, foi questionado ao paciente sobre possíveis incômodos, não havendo relatos. Apesar de portar a síndrome de Down, pouco interferia no tratamento, aceitando muito bem todos os procedimentos, sobre os quais foi explicado antes de serem iniciados. A mãe esteve presente em todos os atendimentos, o que forneceu tranquilidade e segurança ao paciente.

A esclera artificial selecionada, mais próxima ao volume desejado, foi retirada da cavidade anoftálmica e serviu de modelo para ser recoberta por silicone de condensação laboratorial extraduro (Zetalabor, Zhermack, Itália). Esse molde de silicone foi incluído no interior de mufla metálica, com gesso pedra tipo III (Gesso Rio, Brasil). Após presa do gesso, o molde foi preenchido por resina acrílica termopolimerizável branca opaca (n.1, A.O.Clássico, Brasil), e a mufla, prensada, foi levada à água em

ebulição, por 20 minutos, para que a resina alcançasse a polimerização (Figura 3).

Figura 3 – Mufla metálica com moldes da esclera artificial

Após a polimerização da resina, a mufla foi esfriada à temperatura ambiente e, então, aberta, sendo desincluída a esclera protética. Esta recebeu acabamento cuidadoso com broca Maxicut e tiras de lixas de diferentes granulações, e polimento com pedra pomes e branco de Espanha.

A esclera artificial foi colocada na cavidade anoftámica e realizada, com auxílio de uma caneta para retroprojeção, a determinação da localização pupilar, que se obtém solicitando ao paciente que mantenha o olhar fixo em um ponto, orientado pelo profissional. Nesse momento, encontramos grande dificuldade em lidar com o paciente, pois ele não cooperava na manutenção dessa posição ocular. Porém, com várias tentativas e diálogo adequado, obtivemos o correto registro.

Para a elaboração da simulação da íris artificial, foram recortados círculos de cartolina preta de diâmetro correspondentes aos do paciente (11mm), com perfurador de couro, que serviram de base para caracterização, através do uso de tinta a óleo de diversas tonalidades (Figura 4).

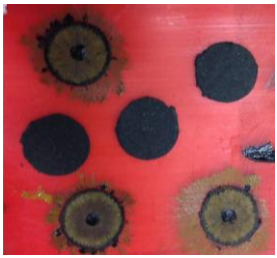

Figura 4 – Caracterização da íris artificial

Para ajudar na seleção das cores das tintas, foram tiradas fotos de distintas angulações da íris natural, para servirem como guia. Em seguida à secagem da tinta, a íris artificial foi colada sobre um platô, com centro na marcação de centralização pupilar, que foi obtido através do desgaste de cerca de 12 mm de diâmetro da esclera (Figura 5). A caracterização da esclera artificial foi finalizada com pigmentos para resina acrílica e lã vermelha, que simulou a vascularização do globo ocular.

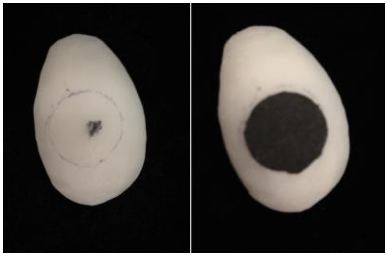

Figura 5 – Registro da centralização e fixação de íris em esclera de resina acrílica

Uma camada de resina termicamente ativada incolor (A.O.Clássico Ltda, Brasil) foi aplicada sobre a região estética da prótese, reposicionada no molde, em mufla metálica. Essa camada de resina garantiu a proteção da caracterização e forneceu a aparência de brilho que a córnea natural possui. Após sua polimerização, a prótese recebeu acabamento e polimento final para sua instalação (Figura 6).

Figura 6 – Prótese após acabamento

Na consulta de instalação, foi constatada a perfeita adaptação, o volume palpebral adequado, a estética facial esperada tanto pelo paciente como também pelos seus familiares (Figura 7). Foi notável a alegria do paciente, satisfação da expectativa pelo uso da prótese ocular e solução de seus anseios estéticos.

Para controle, consultas foram realizadas para certificar que a prótese estava bem acomodada, sem traumas, assim como instruções de higiene e conservação foram reforçadas. Solicitou-se a remoção diária da prótese, para lavagem com água e sabão neutro.

O tempo de uso de prótese ocular é de cerca de cinco anos ou menos, dependendo da descoloração da íris artificial e de desadaptação, devido ao crescimento facial ou modificações dos tecidos moles. A observação da necessidade de troca foi solicitada à mãe do paciente, pois o mesmo não manifestava queixa, independente de sentir qualquer incômodo. Aumento de secreção lacrimal ou facilidade de soltura da prótese ocular indicam urgência para troca ou ajustes.

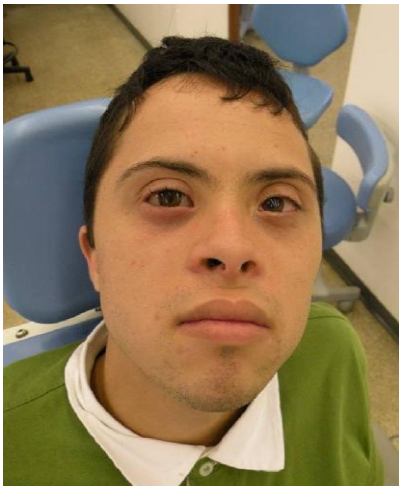

Figura 7 – Paciente reabilitado com a prótese ocular estética em posição

DISCUSSÃO

Os valores humanos fazem a modificação do homem dentro do meio em que ele vive. As respostas intrínsecas e extrínsecas permeiam o estado emocional do indivíduo. Entre muitos valores, temos aquele que o próprio ser se dá. Autoestima é o valor físico e emocional que é dado a si mesmo. Quando o indivíduo está com sua autoestima elevada, o que acontece após a reabilitação (3), ele se sente mais seguro e confiante, sendo capaz de desenvolver seus afazeres e, até mesmo, passar por seus problemas com maior facilidade, pois mesmo quando passam por problemas, estes indivíduos recuperam com maior rapidez o foco positivo das coisas e da vida. Completamente diferente de indivíduos que perdem sua autoestima, por não estarem satisfeitos com sua aparência.

A face permite ao homem exprimir seus sentimentos e se comunicar (1), e a perda do globo ocular compromete a normalidade facial. Em função do impacto psicológico provocado, pode conduzir o indivíduo a um grau de desestruturação

temporária ou permanente. Um ponto de extrema importância que podemos associar ao atendimento a pacientes mutilados é da integralização do atendimento com a sua família, o que pode contribuir de modo positivo ou negativo na maneira de enfrentamento que o paciente adotará diante da perda.

Com a inserção da prótese na vida dos pacientes mutilados, conseguimos observar nova possibilidade de encaixe nos estereótipos que a sociedade impõe. A adaptação da prótese ocular e a conseqüente recuperação da estética contribuem para os aspectos pessoal e interpessoal não sofrerem modificações naturais de seu desenvolvimento (7).

No caso relatado, uma das maiores preocupações que os familiares expressavam era a grande vontade de aceitação do indivíduo perante o seu meio (2). A nova condição estético-física promovia o enfrentamento de grandes desafios para superar as dificuldades e limitações que apresentam um portador de síndrome de Down. A confecção de prótese ocular, em passos simplificados (5), possibilitou redução de expectativa, em atendimentos curtos e resolutivos.

O preconceito é um fator que pode interferir ou não na reabilitação do sujeito, dependendo do comportamento que apresente diante da sociedade (7). O apoio psicológico a indivíduos com necessidade de prótese facial favorece o convívio e aceitação social e profissional. Conhecer suas necessidades e expectativas contribui para melhorar a forma de intervenção técnica (4).

Para a reabilitação efetiva e absoluta, a participação da equipe multidisciplinar é indispensável (6) para que o indivíduo obtenha melhores resultados tarapêuticos. Com o auxílio de especialistas em oftalmologia, dentistas e psicólogos, pode-se conseguir a reabilitação, pois somente após o paciente voltar a sentir, fazer e experimentar, como antes, é que se pode considerá-lo reabilitado.

Considerações finais

O tratamento reabilitador de paciente com perda do globo ocular é um verdadeiro desafio para o cirurgião-dentista. Não somente pelo envolvimento de questões estéticas e funcionais, mas também como as psicológicas e sociais. O diferencial do atendimento a pacientes sindrômicos está, em grande parte, associado à maior atenção e manejo coerente com as limitações desse indivíduo. Mesmo com esses aspectos, conseguimos chegar ao fim do tratamento, alcançando tanto as expectativas do paciente quanto dos seus familiares.

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Anexos

NORMAS DA REVISTA

PROSTHETICS AND ORTHOTICS INTERNATIONAL
Manuscript Submission Guidelines

9.4 Manuscript preparation
9.4.1 Essential considerations
9.4.2 Guidelines for submitting artwork, figures and other graphics
9.4.3 Your Title, Keywords and Abstracts: Helping readers find your article online
9.4.4 Corresponding Author Contact details
9.4.5 English Language Editing services
9.4.6 Guidelines for submitting supplemental files
10. After acceptance
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10.2 E-Prints and complimentary copies
10.3 SAGE production
10.4 OnlineFirst publication
11. Further information

Prosthetics and Orthotics International is a multidisciplinary journal which accepts manuscript submissions from a wide range of professional disciplines. These include clinical, educational, medical, rehabilitation, sport and research aspects of prosthetics, orth hotics and related areas. The journal however, strongly encourages the discussion of clinical significance for all submitted manuscripts.

The journal currently publishes 4 times a year (March, June, September, and December). The content of Prosthetics and Orthotics International includes articles based on original research reports, reviews (clinical and theoretical), technical notes, clinical notes, case reports/case series, expert clinical viewpoint, letters to the editor and book reviews. Reports from consensus conferences/meetings and working groups are also published the journal.

1. Peer review policy

Prosthetic and Orthotics International operates a strictly anonymous double-blinded peer review process in which the reviewer‟s name is withheld from the author, and the author‟s name from the reviewer. All manuscripts are reviewed as rapidly

as possible, and an editorial decision is generally reached within 4-6 weeks of submission.

2. Article types

2.1.1 Original Research Reports

This form of manuscript presents new clinical and experimental findings that advance the clinical and theoretical fields of orthotics, prosthetics and related areas. The main text of the manuscript should not exceed 3,000 words (please refer to table 1). The abstract for a Research Report has a 200 word limit and should contain the following subheadings: Study Design; Background; Objectives; Methods; Results; and Conclusions. Please state the word count on a line below the abstract.

Under the abstract, a Clinical Relevance statement of no more than 50 words should be provided. This should provide information on the potential application and impact to clinical practice. The author (s) may also make reference to how the findings of the current study contribute to the overall understanding of the topic. Please state the word count on a line below the statement.

The main body of an Original Research Report should include the following sections: Background, Methods, Results, Discussion, Conclusion, and References.

The Background should introduce the topic area etc and provide a succinct review of the appropriate literature. This section concludes with the objectives/purpose of the study and by stating a hypothesis. The Methods section provides information on the design of the study (i.e. retrospective, randomised controlled trial). Other information includes inclusion and exclusion criteria, the study population, ethical approval (consent), equipment, procedures, methods of analysis and data analysis. The Results section must contain a detailed presentation of the data analysed and must relate to supporting information presented within tables and figures, and their related legends.

The Discussion should be to the point and focus on your main findings – was the hypothesis supported or rejected? Within this section authors should also compare and contrast the findings their study with previous literature. The strengths and limitations of the study should also be addressed along with future studies. Where possible, emphasis should be placed on the application to clinical practice. The Conclusion provides a different or new view of the problem you outlined in your background. Conclusions made should only be supported by your findings. Please state the word count after the conclusion. For referencing style see section 9.3.

2.1.2 Reviews

There are various types of reviews that can be submitted to Prosthetics and Orthotics International. A traditional Literature Review which provides a critical synthesis of orthotics, prosthetics or related topic. The word limit for this type of article is 5,000 words and should be stated prior to the reference section. The abstract should be no more than 200 words and should be structured using the following subheadings: Study Design (i.e. Literature Review); Background; Objectives; Methods; Results; and Conclusions and References. Please state the word count on a line below the abstract.

A Clinical Relevance statement of no more than 50 words should also be provided. This should provide information on the potential application and impact to clinical practice. The author (s) may also make reference to how the findings of the current review contribute to the overall understanding of the topic. The word count should be provided on a line below the statement.

The journal also welcomes submissions based on Systematic Reviews and Meta-analysis. The guidelines for the abstract are the same as the Literature Review. Authors should note that the overall maximum word count for a Systematic Review and Meta-analysis is 4,000 and 3,500 words respectively (please refer to

table 1). The Abstract and Clinical Relevance statement for both sets of reviews are identical to that of the literature review.

2.1.3 Technical Note

A Technical Note is a technical-research based commentary that is preferably on a current issue. The word limit for a technical note is 1,200 – 1,500 words. Specifically the article should be based on a succinct and balanced summary of information on equipment, procedures, or particular (innovative) technological approaches. The abstract is structured with a 150 word limit, and should include the following 3 subheadings: Background and Aim, Technique; and Discussion. A Clinical Relevance statement should also be provided under the abstract and should be no more than 35 words. This should provide a key point on the potential application and impact to clinical practice.

The word count for the abstract and Clinical Relevance statement should be provided on a line below each respective section.

The main text subheadings should reflect that of the abstract Background and Aim; Technique and Discussion. An additional subheading labelled ‘Key Points’ should be added after the discussion and should be presented using 3 – 4 bullet points (please refer to table 1). The word count for the main text should be stated prior to the References which follows the Key Points section.

2.1.4 Clinical Note

A Clinical Note has a word limit of 1,200 – 1,500 words and focuses on a clinical-research based commentary that is preferably on a current issue. The article should be based on a succinct and balanced summary of particular clinical (innovative) approaches and procedures that enhance clinical practice and understanding. The abstract is also structured with a 150 word limit, and should include the following 3 subheadings: Background and Aim, Technique; and Discussion. A Clinical Relevance statement should also be provided under the abstract and should be no more than 35 words. This should provide a key point on the potential application and impact to clinical practice.

The word count for the abstract and Clinical Relevance statement should be provided on a line below each respective section.
The main text subheadings should reflect that of the abstract Background and Aim; Technique and Discussion. An additional subheading labelled ‘Key Points’ should be added after the discussion and should be presented using 3 – 4 bullet points (please refer to table 1). The word count for the main text should be stated prior to the References which follows the Key Points section.

2.1.5 Case Reports

Case reports include a single Case Study and Case Series (group of patients) should be between 1500 and 2000 words. They should be based on an intervention or interesting observation of a unique clinical case. The report should include a structured abstract of 150 words using the following subheadings: Background (include aim/purpose), Case Description and Methods, Findings and Outcomes and Conclusion. As with other articles a Clinical Relevance statement should be provided under the abstract and has a limit of 35 words. This statement may include the potential impact on clinical practice and recognition of the key features of the unique case. The word count for the abstract and clinical relevance statement should be provided on a line below each respective section.
Within the main text the following subheadings should be used: Background (include aim); Case Description and Methods; Findings and Outcomes, and Discussion and Conclusion. Information presented with the Case Description should include patient characteristics, assessment, diagnosis (differential diagnosis if required), methods of assessment and management strategies employed (please refer to table 1). This information however will be individual to each Case Report.
The word count for the main text should be stated prior to a list of References which follows the Conclusion.
Authors are required to assure the anonymity of the participant(s) (names, uniquely identifying personal descriptors, detailed family

trees, and geographic location should not be included). Please check with your Institutional or Local Ethics Committee regarding specific requirements for consent on Case Reports. Normally, ethical approval has to be sought and adhered to as outlined for 'Original Research Reports' above. There should be an introductory section as summarized above, followed by the presentation of the case. Where applicable, the steps undertaken to address the clinical problem should be explained in detail.

2.1.6 Expert Clinical Viewpoint

This type of article is by invitation only from the Editor-in-Chief. The content, commentary and nature of the article may follow a particular article published in the same issue or it could be presented in the form of a „current concept" approach of key topic/area (s).

2.1.7 Letter to the Editor

Readers' letters to the Editor-in-Chief are welcomed and should address issues raised by published articles or should report significant new findings that merit rapid dissemination. The decision to publish is made by the Editor-in-Chief. To submit a letter, please email the Editor-in-Chief with text attached. Please note that all letters are copyedited prior to publication (please refer to table 1).

2.1.8 Book Review

A list of up-to-date books for review is available from the SAGE Ltd website (please refer to table 1). Table 1. Overview of recommended maximums for manuscript submission to Prosthetics and Orthotics International. *Excludes references. **See section 9.3 for referencing style.

2.1.9 Tables and Figures

Tables and figures should be referred to in the text as follows: Figure 1, Figure 2, Table 1, Table 2.

They should be included at the end of the main text document or uploaded as separate files, and designated as 'figure' or 'table' as appropriate. Files should be saved as one of the following formats: JPEG, TIFF (tagged image file format), PostScript or EPS (encapsulated PostScript) and should contain all the necessary information and source file of the application (e.g. CorelDraw/Mac, CorelDraw/PC). The place at which a table or figure is to be inserted in the printed text should be clearly indicated on the manuscript (i.e. insert Figure 1, insert Table 1). Each table and/or figure must have a legend that explains its content without reference to the text. This may be included at the end of the main text below the figure or table or embedded within the separate files. Avoid the use of colour for purely aesthetic reasons. Artwork submitted for publication will not be returned and will be destroyed after publication, unless otherwise requested.

3. How to submit your manuscript

Before submitting your manuscript, please ensure you carefully read and adhere to all the guidelines and instructions to authors in this document. Manuscripts not conforming to these guidelines may be returned.

Prosthetics and Orthotics International is hosted on SAGE track a web based online submission and peer review system powered by ScholarOne™ Manuscripts. Please read the Manuscript Submission guidelines in this document, and then simply visit http://mc.manuscriptcentral.com/tpoi to login and submit your article online.

IMPORTANT: Please check whether you already have an account in the system before trying to create a new one. If you have reviewed or authored for the journal in the past year it is likely that you will have had an account created. For further guidance on submitting your manuscript online please visit ScholarOne Online Help.

All papers must be submitted via the online system. If you would like to discuss your paper prior to submission, please refer to the contact details below (section 11. Further Information). Back to top

4. Journal contributor's publishing agreement

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4.1 SAGE Choice

If you wish your article to be freely available online immediately upon publication (as some funding bodies now require), you can opt for it to be included in SAGE Choice subject to payment of a publication fee. The manuscript submission and peer reviewing procedure is unchanged. On acceptance of your article, you will be asked to let SAGE know directly if you are choosing SAGE Choice. For further information, please visit SAGE Choice.

5. Declaration of conflicting interests

Within your Journal Contributor‟s Publishing Agreement you will be required to make a certification with respect to a declaration of conflicting interests. It is the policy of Prosthetics and Orthotics International to require a declaration of conflicting interests from all authors enabling a statement to be carried within the paginated pages of all published articles.

Please include any declaration at the end of your manuscript after any acknowledgements and prior to the references, under a heading „Declaration of Conflicting Interests‟. If no declaration is

made the following will be printed under this heading in your article: „None Declared". Alternatively, you may wish to state that „The Author(s) declare(s) that there is no conflict of interest". When making a declaration the disclosure information must be specific and include any financial relationship that all authors of the article has with any sponsoring organization and the for-profit interests the organization represents, and with any for-profit product discussed or implied in the text of the article.
Any commercial or financial involvements that might represent an appearance of a conflict of interest need to be additionally disclosed in the covering letter accompanying your article to assist the Editor-in-Chief in evaluating whether sufficient disclosure has been made within the Declaration of Conflicting Interests provided in the article.
For more information please visit the SAGE Journal Author Gateway.

6. Other conventions
6.1 Permissions and consent:
If the manuscript includes work previously published elsewhere, it is the authors' responsibility to obtain permission to use it. Authors must indicate in writing that such permission has been granted. 6.2 Ethical approval:
Manuscripts submitted must comply with accepted ethical standards for human and animal research. When reporting experiments involving humans or animals, authors must certify (1) that the research has been approved by their institutional or appropriate regional research ethics committee, (2) that all investigations were in accordance to the protocol and followed the ethical and humane principles of research and (3) that written informed consent for participation and publication, including publication of photographs of participants, has been obtained. To ensure the anonymity of the author (s) and place of where the study took place, authors are required to replace this information with „xxxxxxxxxx xxxxxxxxxxx".

Identifying information should not be published in written descriptions and photographs unless the information is essential for scientific purposes and the participant (and parent or guardian, where appropriate) gives written informed consent for publication. Informed consent for this purpose requires that the participant be shown the manuscript to be published.

6.3 Financial disclosures and conflict of interest:
Any financial arrangements with any product or rival product featuring in the article, sources of funding, institutional affiliations, and any possible financial or personal conflicts should be stated in the Conflict of Interest box upon submission. Such information will be held in confidence while the paper is under review and will not influence the editorial decision, but if the article is accepted for publication, a disclosure statement will appear in the journal. Authors will be able to declare the above-stated points during the electronic submission process. If you experience any difficulties during your submission, please use the “Get Help Now” link at the top right hand side of the screen. Here you can submit a question which will be responded to within 48 hours.
6.4 Randomised controlled trials Randomised Controlled Trials (RCTs) submitted to Prosthetics and Orthotics International need to include a completed Consolidated Standards of Reporting Trials (CONSORT) flow chart. The CONSORT statement and more information can be found at http://www.consort-statement.org.
7. Acknowledgements
Any acknowledgements should appear first at the end of your article prior to your Declaration of Conflicting Interests (if applicable), any notes and your References.
All contributors who do not meet the criteria for authorship should be listed in an `Acknowledgements" section. Examples of those who might be acknowledged include a person who provided

purely technical help, writing assistance, or a department chair who provided only general support. Authors should disclose whether they had any writing assistance and identify the entity that paid for this assistance.

7.1 Funding Acknowledgement

To comply with the guidance for Research Funders, Authors and Publishers issued by the Research Information Network (RIN), Prosthetics and Orthotics International additionally requires all Authors to acknowledge their funding in a consistent fashion under a separate heading. All research articles should have a funding acknowledgement in the form of a sentence as follows, with the funding agency written out in full, followed by the grant number in square brackets:

This work was supported by the Medical Research Council [grant number xxx].

Multiple grant numbers should be separated by comma and space. Where the research was supported by more than one agency, the different agencies should be separated by semi-colon, with “and” before the final funder. Thus:

This work was supported by the Wellcome Trust [grant numbers xxxx, yyyy]; the Medical Research Council [grant number zzzz]; and the Engineering and Physical Sciences Research Council [grant number aaaa].

In some cases, research is not funded by a specific project grant, but rather from the block grant and other resources available to a university, college or other research institution. Where no specific funding has been provided for the research we ask that corresponding authors use the following sentence:

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Please include this information under a separate heading entitled “Funding” directly after any other Acknowledgements prior to your “Declaration of Conflicting Interests” (if applicable), any Notes and your References.

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For more information on the guidance for Research Funders, Authors and Publishers, please visit: http://www.rin.ac.uk/funders-acknowledgement

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9. Manuscript style

9.1 File types

Only electronic files conforming to the journal's guidelines will be accepted. Preferred formats for the text and tables of your manuscript are Word DOC, RTF, XLS. LaTeX files are also accepted. Please also refer to additional guideline on submitting artwork [and supplemental files] below.

9.2 Journal Style

Prosthetics and Orthotics International conforms to the SAGE house style. Click here to review guidelines on SAGE UK House Style

9.3 Reference Style

Prosthetics and Orthotics International adheres to the SAGE Vancouver reference style. Click here to review the guidelines on SAGE Vancouver to ensure your manuscript conforms to this reference style. Referencing numbers are set in superscript format.

If you use EndNote to manage references, download the SAGE Vancouver output file by following this link and save to the appropriate folder (normally for Windows C:\Program Files\EndNote\Styles and for Mac OS X Harddrive:Applications:EndNote:Styles). Once you"ve done this, open EndNote and choose “Select Another Style...” from the dropdown menu in the menu bar; locate and choose this new style from the following screen.

The full references should be listed numerically, and presented following the text of the manuscript. The journal uses the following conventions for references:

To a book Seymour R. Prosthetics and orthotics: lower limb and spine. 1st ed. Philadelphia: Lippincott Williams & Wilkins; 2002.

To a chapter in a book Lateur LM. Regional and heritable bone and collagen diseases. In: Kippel JH, Dieppe PA (eds) Rheumatology. London: Mosby, 1998; p. 1-26.

To an article in a journal Lou E, Raso JV, Hill DL, Mahood JK, Moreau MJ. Correlation between quantity and quality of orthosis wear and treatment outcomes in adolescent idiopathic scoliosis. Prosthet Orthot Int 2004; 28(1):49-54.

To full text from an electronic database Reid DB. Australasian association of doctors' health advisory services. Med J Australia [serial online]. 2005 [cited 2006 Mar 28]; 182(5):255. Available from: http://healthandmedicalcomplete.org

To full text from the Internet Come SE. A 62-year-old woman with a new diagnosis of breast cancer. JAMA-J Am Med Assoc [serial on the internet]. 2006 [cited 2004 Mar 28] 295: 1434-42. Available from: http://jama.ama-assn.org/cgi/content/short/295/12/1434

To a website DSE/GTZ. Report of international conference on orthopaedic technology. [homepage on the Internet] c1996 [cited 2005 Jan 1] Available from: http://www.ispo.ws/Downloads/ISPO-Workshop-PRChina-1996.pdf

Appendices

Appendices should be essential to the overall understanding of the paper. They are subject to review and can be rejected separately.

9.4. Manuscript Preparation

9.4.1 Essential Considerations

Prior to submission please ensure that your manuscript complies with the journal"s requirements and is neatly presented. Manuscripts which do not follow the guidance notes will be returned immediately without review.

 All manuscripts must be written in English. Whilst the difficulties for authors whose native language is not English are acknowledged, it is the responsibility of the author (s) to make certain that the text is written in idiomatic English before submission. Non-English speaking authors who would like to refine their use of language in their manuscripts might consider using a professional editing service. Visit http://www.sagepub.co.uk/authors/journal/submission.sp for further information. This may be achieved by means of a scientific or medical translator (see section 9.4.5).

 Text should be supplied in a format compatible with Microsoft Word for Windows (PC). Charts and tables are considered textual and should also be supplied in a format compatible with Word.

 Manuscripts must solely be submitted for review by Prosthetics and Orthotics International.

 All manuscripts must be prepared on a single sided A4 page size, typed in standard Arial 10 - 12pt font with a minimum of 3cm for left and right hand margins and 5cm at head and foot.

 Text must be double spaced and each page should be numbered consecutively.

 Type flush to the left (do not indent paragraphs) and do not justify the right margin.

 After punctuation enter once space only.

 At the end of each paragraph, apply two „returns‟ (a blank line should be observed between each paragraph).
 Use one „return‟ between main headings and text.
 At the beginning of the manuscript a title page should be provided which should include the name (s) of the author (s), qualifications, institute and corresponding addresses. These details should be presented separately to the main text of the article to facilitate anonymous peer review (see below – organising the presentation of your manuscript†).
 Please only list authors for a manuscript who made a significant contribution. For those manuscripts which have 6 or more authors listed, please clearly state the contribution of each author in the cover letter.
 The abstract (and Clinical Relevance statement) should be presented on a separated page.
 Provide separate word counts at the end of the following: Abstract; Clinical Relevance and Main Text (excluding reference list).
 For referencing, please use Vancouver Style (i.e. use successive numbers set in Superscript format throughout the text). List full references at the end of the text, using the corresponding numbers. See 'References' below.
 All manuscripts submissions should be supported by a cover letter which should include the following information:

 A statement indicating why the manuscript should be published in Prosthetics and Orthotics International;
 A statement that the manuscript has been read and agreed by all authors (list authors in parenthesis);
 A statement must be provided if any of the information presented within the manuscript is duplicated;
 A statement must be provided declaring if there are any commercial relationships.

† Organising the presentation of your manuscript

Separate page > Title with Authors and corresponding author address
Separate page > Title only
Separate page > Abstract and Clinical Relevance statement (with word counts stated)
Separate page > Main text of article including references, acknowledgements, conflicts of interest, funding. Before the reference section, authors are required to state the word count.
Separate page > Figures with relevant legends.
Separate page > Tables with relevant legends.

9.4.2 Guidelines for submitting artwork, figures and other graphics

For guidance on the preparation of illustrations, pictures and graphs in electronic format, please visit SAGE‟s Manuscript Submission Guidelines.

If, together with your accepted article, you submit usable colour figures, these figures will appear in colour online regardless of whether or not these illustrations are reproduced in colour in the printed version. If a charge applies you will be informed by your SAGE Production Editor. For specifically requested colour reproduction in print, you will receive information regarding the costs from SAGE after receipt of your accepted article.

9.4.3 Your Title, Keywords and Abstracts: Helping readers find your article online

The title, keywords and abstract are key to ensuring readers find your article online through online search engines such as Google. Please refer to the information and guidance on how best to title your article, write your abstract and select your keywords by visiting SAGE‟s Journal Author Gateway Guidelines on How to Help Readers Find Your Article Online.

9.4.4 Corresponding Author Contact details

Provide full contact details for the corresponding author including email, mailing address and telephone numbers. Academic affiliations are required for all co-authors. These details should be

presented separately to the main text of the article to facilitate anonymous peer review.

9.4.5 English Language Editing services

Non-English speaking authors who would like to refine their use of language in their manuscripts might consider using a professional editing service. Visit http://www.sagepub.co.uk/authors/journal/submission.sp for further information.

9.4.6 Guidelines for submitting supplemental files

Prosthetics and Orthotics International is able to host approved supplemental materials online, alongside the full-text of articles. Supplemental files will be subjected to peer-review alongside the article. For more information please refer to SAGE"s Guidelines for Authors on Supplemental Files.

10. After acceptance

10.1 Proofs

We will email a PDF of the proofs to the corresponding author.

10.2 E-Prints and Complimentary Copies

SAGE provides authors with access to a PDF of their final article. For further information please visit http://www.sagepub.co.uk/authors/journal/reprint.sp. We additionally provide the corresponding author with a complimentary copy of the print issue in which the article appears up to a maximum of 5 copies for onward supply by the corresponding author to co-authors.

10.3 SAGE Production

At SAGE we place an extremely strong emphasis on the highest production standards possible. We attach high importance to our quality service levels in copy-editing, typesetting, printing, and online publication (http://online.sagepub.com/). We also seek to uphold excellent author relations throughout the publication process.

We value your feedback to ensure we continue to improve our author service levels. On publication all corresponding authors

will receive a brief survey questionnaire on your experience of publishing in Prosthetics and Orthotics International with SAGE.

10.4 OnlineFirst Publication

Prosthetics and Orthotics International benefits from OnlineFirst, a feature offered through SAGE‟s electronic journal platform, SAGE Journals Online. It allows final revision articles (completed articles in queue for assignment to an upcoming issue) to be hosted online prior to their inclusion in a final print and online journal issue which significantly reduces the lead time between submission and publication. For more information please visit our OnlineFirst Fact Sheet

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11. Further information

Any correspondence, queries or additional requests for information on the Manuscript Submission process should be sent to the Editorial Office as follows:

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Editor-in-Chief
Prosthetics and Orthotics International
Wales Centre for Podiatric Studies
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Western Avenue
Cardiff, CF5 2YB, UK
Tel: +44 (0) 29 2041 7221 E-mail: sarah.curran@ispoint.org