Murillo Rezende Santos

Atividade Elétrica dos Músculos Orbiculares Antes e Após a Instalação de Próteses Oculares

Araçatuba - SP

2013

MURILLO REZENDE SANTOS

ATIVIDADE ELÉTRICA DOS MÚSCULOS ORBICULARES ANTES E APÓS A INSTALAÇÃO DE PRÓTESES OCULARES

Dissertação apresentada à Faculdade de Odontologia do Câmpus de Araçatuba – Unesp, para a obtenção do Grau de "Mestre em Odontologia" – Área de Concentração Prótese Dentária

Orientador: Profa. Ass. Daniela Micheline dos Santos

Coorientador: Prof. Adj. Marcelo Coelho Goiato

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Dedicatória

Prótese
Bucomaxilofacial

À minha namorada Flávia,

"Quando sonhamos sozinhos, é só um sonho. Quando sonhamos juntos é o começo de uma nova realidade." Se estou realizando esse momento da minha vida, é graças a você. Muito obrigado pelo apoio incondicional, críticas quando necessárias e por estar ao meu lado nos momentos tristes e alegres. Sem você não sou nada. Te amo!

"Ser profundamente amado por alguém nos dá força;
amar alguém profundamente nos dá coragem."
Lao-Tse

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"Os pais compreendem até o que os filhos não dizem."

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Resumo

Prótese Bucomaxilofacial

SANTOS, M.R. Atividade elétrica dos músculos orbiculares antes e após a instalação de próteses oculares [Dissertação]. Araçatuba: Faculdade de Odontologia da Universidade Estadual Paulista; 2013.

RESUMO

A perda do bulbo ocular compromete não só a estética, mas também a tonicidade muscular da região facial do paciente, uma vez que com a ausência do globo ocular os músculos orbiculares dos olhos podem sofrer atrofia. Desse modo, o objetivo do presente estudo foi verificar a atividade elétrica dos músculos orbiculares, antes e após a instalação de próteses oculares em pacientes que foram submetidos à enucleação unilateral do bulbo ocular. Foram selecionados, por meio de anamnese e exame clínico, 12 pacientes voluntários com indicação de prótese. O sinal eletromiográfico foi realizado com o auxílio do eletromiógrafo, em quatro situações clínicas: Repouso (R), Abertura e Fechamento Normal das Pálpebras (AFN), Abertura e Fechamento Rápido das Pálpebras (AFR) e Apertamento (A). Esses registros foram realizados antes da instalação da prótese ocular, e após 7, 30 e 60 dias da instalação e uso da mesma. Os mesmos ensaios foram realizados no músculo orbicular do olho sadio do paciente, resultados que serviram como controle do estudo. Os dados obtidos foram submetidos à análise estatística pelo programa SPSS ($p<0.05$) e o t-teste foi utilizado para comparar os músculos superior e inferior por período de tratamento (inicial, 7, 14, 30 e 60 dias), para as quatro condições clínicas. Nas quatro condições clínicas avaliadas foi verificado diferença estatisticamente significativa em relação ao período inicial e após 7 dias da instalação da prótese. O fascículo superior do músculo orbicular do olho apresentou maiores valores de atividade elétrica em relação ao fascículo inferior em todas as situações clínicas avaliadas. Os menores valores de atividade elétrica foram observados durante o período inicial para a condição de repouso (OS 8.418 / OI 5.933) e os maiores após 60 dias na condição de apertamento (OS 131.504 / OI 117.123). O tratamento reabilitador com próteses oculares para pacientes com anoftalmia unilateral promoveu aumento da atividade elétrica do músculo orbicular do olho, restabelecendo a tonicidade muscular e a normalidade funcional motora ao indivíduo.

PALAVRAS-CHAVE: Enucleação ocular, olho artificial, eletromiografia.

Abstract

Prótese Bucomaxilofacial

SANTOS, M.R. Electrical activity of orbicular muscles after ocular prosthesis insertion. [Dissertation]. Araçatuba: UNESP - São Paulo State University; 2013.

ABSTRACT

The eye loss besides affecting patient's aesthetics, it compromises the muscle tone of the facial region owing to the atrophy of orbicular muscles. Thus, although the use of ocular prosthesis does not return patient's vision, it fills the anophtalmic cavity restoring the cosmetic and muscle tone. The aim of this present study was to evaluate the electrical activity of orbicular muscles before and after ocular prosthesis insertion of patients who underwent unilateral enucleation of eyeball. The electrical activity of the orbicular muscles was assessed through the Myosystem BR1 electromyograph in four clinical situations: (1) rest, (2) normal opening and closing of the eyelid, (3) fast opening and closing of the eyelids, and (4) clenching. The electrodes were placed in the fascicles of upper (UO) and lower (LO) orbicular muscles. Electromyographic examinations were performed before and after 7, 14, 30 and 60 days of prosthesis insertion. T-test ($p<.05$) was used to compare the upper and lower orbicular muscles for each period of evaluation in all clinical conditions. A total of 12 patients of both genders were treated and they aged from 42 to 80 years. Several factors were the cause of anophthalmia and the trauma during job accident was the main reason. A statistical significant difference in the electromyographic data was observed for all four clinical conditions when comparing the baseline with the 7-day prosthesis insertion periods. The UO exhibited higher values of electrical activity than LO for all clinical situations. The lowest electrical activity was noted for the baseline period during the rest condition (UO 8.418 /LO 5.933), while the greatest one after 60 days of prosthesis insertion during clenching (UO 131.504 / LO 117.123). After ocular prosthesis insertion, a significant increase in the electrical activity values of the orbicular muscles was observed.

KEYWORDS: Eye, enucleation; eye, artificial; electromyography.

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μm	= micrômetro
Hz	= hertz
KHz	= quilohertz
EMG	= eletromiografia

Sumário

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ARTIGO

ATIVIDADE ELÉTRICA DOS MÚSCULOS ORBICULARES ANTES E APÓS A INSTALAÇÃO DE PRÓTESES OCULARES

1 Artigo: Atividade elétrica dos músculos orbiculares antes e após a instalação de próteses oculares[1]

1.1 Resumo

objetivo: O objetivo do presente estudo foi verificar a atividade elétrica dos músculos orbiculares, antes e após a instalação de próteses oculares em pacientes que foram submetidos à enucleação unilateral do bulbo ocular.

Tipo de estudo: Série de casos

Participantes: Foram selecionados, por meio de anamnese e exame clínico, 12 pacientes voluntários com indicação de prótese.

Métodos: O sinal eletromiográfico foi realizado com o auxílio do eletromiógrafo, em quatro situações clínicas: Repouso (R), Abertura e Fechamento Normal das Pálpebras (AFN), Abertura e Fechamento Rápido das Pálpebras (AFR) e Apertamento (A). Esses registros foram realizados antes da instalação da prótese ocular, e após 7, 30 e 60 dias da instalação e uso da mesma. Os mesmos ensaios foram realizados no músculo orbicular do olho sadio do paciente, resultados que serviram como controle do estudo. Os dados obtidos foram submetidos à análise estatística pelo programa SPSS ($p<0.05$) e o t-teste foi utilizado para comparar os músculos superior e inferior por período de tratamento (inicial, 7, 14, 30 e 60 dias), para as quatro condições clínicas.

Principais aspectos avaliados: Atividade elétrica dos músculos orbiculares, antes e após a instalação de próteses oculares, sinal eletromiográfico, quatro situações clínicas: Repouso (R), Abertura e Fechamento Normal das Pálpebras (AFN),Abertura e Fechamento Rápido das Pálpebras (AFR) e Apertamento (A).

[1] Este artigo será formatado de acordo com as normas do periódico *Ophthalmology.*

Resultados: Nas quatro condições clínicas avaliadas foi verificado diferença estatisticamente significativa em relação ao período inicial e após 7 dias da instalação da prótese. O fascículo superior do músculo orbicular do olho apresentou maiores valores de atividade elétrica em relação ao fascículo inferior em todas as situações clínicas avaliadas. Os menores valores de atividade elétrica foram observados durante o período inicial para a condição de repouso (OS 8.418 / OI 5.933) e os maiores após 60 dias na condição de apertamento (OS 131.504 / OI 117.123).

Conclusão:O tratamento reabilitador com próteses oculares para pacientes com anoftalmia unilateral promoveu aumento da atividade elétrica do músculo orbicular do olho, restabelecendo a tonicidade muscular e a normalidade funcional motora ao indivíduo..

1.2 Introdução

Os defeitos orbitais são embaraçosos para o portador, pois acomete a face, essencial para o relacionamento humano. A perda do bulbo ocular pode ter origem congênita, patológica ou traumática,[1-4] afetando tecidos moles da cavidade orbitária ou envolvendo tecidos ósseos e musculares ao redor.[5,6]

Três são as cirurgias óculo-órbito-palpebrais relacionadas com a remoção do bulbo ocular: evisceração, remoção parcial do bulbo ocular, com a conservação da esclera; enucleação, remoção total do bulbo, permanecendo somente a cápsula e os músculos oculomotores; e exenteração, que remove todo o conteúdo da cavidade orbital e tecido circunjacente.[7]

Para reabilitar pacientes com essas deformidades tem-se a prótese ocular, sendo uma das várias modalidades da prótese maxilofacial que,[8-10] apesar de não devolver ao seu portador a função primordial, ou seja, a visão mantém preenchida a cavidade anoftálmica, restaurando a direção lacrimal e prevenindo acúmulo desse fluido na cavidade.[11,12] Além disso, a aparência estética do paciente também é

melhorada, contribuindo com o seu desenvolvimento psíquico social, melhorando a sua qualidade de vida. [13-15]

Além de comprometer a estética, a ausência do globo ocular, pode alterar a tonicidade muscular da região facial, uma vez que os músculos orbiculares dos olhos podem sofrer atrofia.[16,17]

A musculatura cutânea palpebral é de suma importância na estética e na expressão facial, além de servir como proteção para as cavidades. É uma musculatura superficial, na qual vêm sendo realizados estudos eletromiográficos, o que tem contribuído muito para a elucidação da eficiência dessa musculatura.[18,19]

Desse modo, o objetivo deste estudo foi avaliar a atividade elétrica dos músculos orbiculares, antes e após a instalação de próteses oculares em pacientes que com enucleação unilateral do bulbo ocular. Como hipótese do estudo, acreditamos que o tratamento reabilitador com próteses oculares possa devolver parcialmente a tonicidade dos músculos orbiculares, recuperando grande parte dos movimentos, porém com menor intensidade se comparado ao lado saudável.

1.3 Materiais e Métodos

Seleção dos Voluntários

Para realização deste estudo, foram selecionados por meio de anamnese e exame clínico, 12 voluntários com enucleação unilateral do globo ocular com indicação de prótese, com faixa etária entre 50 a 65 anos de idade. Foram excluídos do estudo pacientes portadores de prótese ocular antiga, com cavidades anoftálmicas muito atrésicas, com necessidade prévia de próteses expansoras; com falta de habilidade cognitiva para realizar os testes. Os voluntários selecionados receberam informações sobre o tratamento a ser instituído, conforme recomendações do Comitê de Ética em Pesquisa Humana.

Exame Eletromiográfico

O exame foi realizado com o auxílio do eletromiógrafo Myosystem BR1 (DataHominis Tecnologia Ltda, Uberlândia, Minas Gerais, Brasil).

Os sinais eletromiográficos foram condicionados por meio de amplificadores de instrumentação programáveis via software e filtros analógicos passa-faixa com frequência de 10 Hz (passa alta) e 1000 Hz (passa baixa). Os sinais foram digitalizados com freqüência de amostragem de 2 kHz, com 12 bits de resolução e amostragem simultânea dos sinais. Para coleta, o ganho do equipamento foi ajustado para 2000 vezes. Para visualização e processamento do sinal eletromiográfico, foi utilizado o Software Myosystem I versão 2.12.

Para o registro eletromiográfico, foram utilizados eletrodos bipolares de superfície (DataHominis Tecnologia Ltda, Uberlândia, Minas Gerais, Brasil). Previamente à colocação dos eletrodos, a pele foi limpa e seca, com a finalidade de eliminar resíduos de gordura ou poluição que, eventualmente, poderiam estar presentes. Os eletrodos de superfície foram posicionados na porção superior e inferior do músculo orbicular dos dois olhos (enucleado e sadio), seguindo os critérios de posicionamento de eletrodos descritos por Cram e Engstrom. 20 O eletrodo de referência (terra) foi posicionado no punho direito do voluntário. Durante todo o exame, os voluntários permaneceram adequadamente sentados, com postura ereta, com as plantas dos pés apoiadas no solo e os braços apoiados sobre os membros inferiores. Os voluntários desta pesquisa foram adequadamente instruídos sobre os procedimentos a serem realizados em cada tomada de registro eletromiográfico.

O sinal eletromiográfico foi captado em quatro situações clínicas: Repouso (R), Abertura e Fechamento Normal das Pálpebras (AFN), Abertura e Fechamento Rápido das Pálpebras – Piscar dos Olhos (AFR) e Apertamento (A). Cada situação foi registrada durante 10 segundos.

Foram realizados exames eletromiográficos antes da instalação da prótese ocular e após 7, 14, 30 e 60 dias da instalação e uso da mesma. O registro eletromiográfico do músculo orbicular do olho sadio do paciente foi utilizado como controle.

Confecção das próteses oculares

Após verificar a permissão prévia do Oftalmologista para confecção de prótese ocular foi realizado anamnese e exame da cavidade anoftálmica e região palpebral do paciente. Este foi detalhadamente informado sobre os procedimentos realizados, e também sobre o prognóstico do tratamento.

As próteses oculares em resina acrílica foram confeccionadas individualmente para cada paciente. Após a lubrificação da cavidade ocular com soro fisiológico realizou-se a moldagem da cavidade anoftálmica. Durante este procedimento, o paciente foi posicionado na cadeira odontológica, sentado, com o tronco e cabeça em relação axial normal, estando a cadeira operatória colocada a uma inclinação maior que noventa graus (90º).

A técnica de moldagem foi realizada por meio de moldeira individual de resina acrílica, acoplada a uma seringa plástica descartável sem agulha, com graduação de 10 mL (Descarpack, São Paulo, Brasil) utilizando-se para impressão hidrocolóide irreversível (Hidrogum, Zhermack, Rovigo, Itália). O material de moldagem contido na seringa, juntamente com a moldeira individual, foi inserido em toda a cavidade anoftálmica, até a obtenção de um contorno palpebral superior e inferior semelhantes ao olho sadio. Nesse momento, solicita-se ao paciente movimentar a musculatura orbicular de um lado para o outro, abrindo e fechando os olhos. Após a presa final do material, executa-se a retirada do molde, afastando e pressionando a pálpebra superior no sentido da abertura, ao mesmo tempo em que se abaixa a pálpebra inferior.

O molde destacado da seringa foi incluído em mufla (Artigos Odontológicos Clássico Ltda., São Paulo, Brasil), utilizando-se, para inclusão, gesso pedra (Tipo IV, Durone, São Paulo, Brasil) e silicone laboratorial extra-duro (Zetalabor, Zhermack, Rovigo, Itália).

Após a polimerização do silicone e a cristalização do gesso, a mufla foi aberta e o molde removido. Em seguida, a resina acrílica termopolimerizável para esclera (Artigos Odontológicos Clássico Ltda., São Paulo, Brasil) foi proporcionada e manipulada de acordo com as instruções do fabricante, sendo inserida na mufla, a qual foi mantida em repouso em prensa hidráulica de bancada (Midas Dental Products Ltda., São Paulo, São Paulo, Brasil) por 2 minutos. A polimerização da resina foi realizada em forno microondas (Maxi, Brastemp, São Paulo, São Paulo, Brasil) por 10 minutos. Após a polimerização, a mufla foi novamente aberta e a esclera artificial desincluída.

A esclera artificial foi submetida ao acabamento com pontas abrasivas (Edenta AG, Hauptstrasse, Suíça), e ao polimento em torno de bancada (Nevoni, São Paulo, São Paulo, Brasil) com pedra pomes (Labordent, São Paulo, São Paulo, Brasil) e branco-de-espanha (Labordent, São Paulo, São Paulo, Brasil).

Após o polimento, foi realizada a prova estética da esclera, verificando-se também a sua adaptação. Ainda com a esclera artificial na cavidade anoftálmica, determina-se o centro pupilar, com auxílio de uma caneta de retroprojetor, tomando como parâmetro o olho contralateral do paciente.

A esclera artificial foi removida da cavidade e o ponto demarcado aprofundado cerca de 5 mm, com auxílio de uma broca esférica, montada em peça de mão. Sobre este ponto, localizado na superfície convexa da esclera, foi realizado desgaste da resina obtendo-se assim um platô.

A íris artificial foi confeccionada sobre disco de cartolina preta, pintado com tinta a óleo (Gato Preto, Sorocaba, São Paulo, Brasil) na cor do olho sadio do

paciente, sendo esta etapa a mais delicada na confecção da prótese ocular.[21,22] A secagem da pintura foi realizada por exposição direta a uma fonte de luz infravermelha (Empalux Ltda., Curitiba, Paraná, Brasil) em um período de 4 horas.

Em seguida, a íris artificial foi colada com cola branca (Cascolar, Alba Química Ind. Com. Ltda., São Paulo, Brasil) sobre o platô confeccionado no centro da esclera, coincidindo o centro pupilar demarcado na resina com a pupila pintada sobre o disco. Sobre a pintura, foi prensada resina acrílica incolor (Artigos Odontológicos Clássico Ltda., São Paulo, Brasil), proporcionada e manipulada de acordo com as instruções do fabricante, sendo sua polimerização também realizada em forno microondas por 10 minutos.

Após este processo, a prótese ocular foi desincluída e submetida ao acabamento e polimento, como já mencionado, para posteriormente ser intalada.

Análise dos dados obtidos

Os dados obtidos foram submetidos à análise estatística no programa Statistical Package for Social Sciences (SPSS) versão 19.0, com nível de significância menor que 0,05 ($p<0,05$). A comparação das médias eletromiográficas obtidas foi executada por meio da análise estatística de médias repetidas, com dois fatores, comparando o fator tempo (Inicial, 7, 14, 30 e 60 dias) e local (músculo orbicular do olho superior e inferior). Não foi necessário utilizar a normalização de dados, pois além de ser um tratamento proposto, compara o indivíduo com ele mesmo. Também foi executado o Teste t para comparar os fascículos musculares superior e inferior do olho por período de tratamento (Inicial, 7, 14, 30 e 60 dias).

1.4 Resultados

Nas quatro condições clínicas avaliadas (R, AFN, AFR, A) pode-se observar diferença estatisticamente significante ao longo do tempo ($p<0,05$). Durante as condições clínicas de Repouso (R), Abertura e Fechamento Normal das Pálpebras (AFN) e Piscar dos Olhos (AFR), a porção superior do músculo orbicular do olho apresentou maior atividade que a porção inferior ao longo do tempo avaliado (Inicial, 7, 14, 30 e 60 dias), com dados significantes ($p<0,05$) (tabelas 1 e 2; figuras 1, 2, 3, 4, 5, 6 e 7). Entretanto, na condição clínica de Apertamento (A), apesar da porção superior do músculo orbicular do olho apresentar maior atividade que a porção inferior, não foi observado diferença estatisticamente significante ($p<0,05$) (tabela 2; figura 8).

Tabela 1. Valores das médias, desvio padrão e significância estatística (p< 0,05) dos dados eletromiográficos não normalizados (μV) ao longo do tempo (Inicial, 7, 14, 30 e 60 dias) durante a condição de Repouso, Abertura e Fechamento Normal das Pálpebras e Abertura e Fechamento Rápido das Pálpebras (piscar) para os músculos orbicular superior (OS) e orbicular inferior (OI) comparado com os valores eletromiográficos do olho são - controle.

		TEMPO						
Condição	Músculos	Inicial	**7**	**14**	**30**	**60**	**Sig.**	**Controle**
R	**OS**	8,418 ± (0,545)	10,033 ± (0,640)	10,621 ± (0,556)	10,817 ± (0,538)	10,891 ± (0,550)	*	10,867 ± (0,539)
	OI	5,933 ± (0,545)	7,815 ± (0,640)	8,160 ± (0,556)	8,194 ± (0,538)	8,218 ± (0,550)	*	8,550 ± (0,539)
AFN	**OS**	9,273 ± (0,571)	12,183 ± (0,620)	12,687 ± (0,567)	12,893 ± (0,557)	12,886 ± (0,580)	*	12,616± (0,410)
	OI	7,894 ± (0,571)	10,389 ± (0,620)	10,767 ± (0,567)	10,828 ± (0,557)	10,939 ± (0,580)	*	10,940 ± (0,410)
AFR	**OS**	13,318 ± (0,849)	22,738 ± (1,057)	24,928 ± (1,060)	25,768 ± (1,173)	25,815 ± (1,234)	*	25,177 ± (1,234)
	OI	10,876 ± (0,849)	15,840 ± (1,057)	17,986 ± (1,060)	18,494 ± (1,173)	18,779 ± (1,234)	*	18,477 ± (1,234)
A	**OS**	76,678± (5,207)	118,970± (4,375)	127,778± (6,297)	130,049± (6,335)	131,504± (5,845)	*	135,514± (6,109)
	OI	65,853± (5,207)	108,803± (4,375)	113,956± (6,297)	116,662± (6,335)	117,123± (5,845)	*	124,730± (6,109)

Significante para p<.05

Tabela 2. Valores das médias, desvio padrão e significância estatística (p< 0,05) dos dados eletromiográficos (μV) ao longo do tempo (Inicial, 7, 14, 30 e 60 dias) durante a condição de Repouso, Abertura e Fechamento Normal das Pálpebras, Abertura e Fechamento Normal das Pálpebras (Piscar) e Apertamento para os músculos orbicular superior(OS) e orbicular inferior(OI). *Diferença estatisticamente significante pelo teste *t* para p<0,05.

		MÚSCULOS		
Condições Clínicas	**Tempo**	**OS**	**OI**	**Sig.**
	Inicial	8,418 ± (0,545)	5,933± (0,545)	*
	7	10,033± (0,640)	7,815± (0,640)	*
R	**14**	10,621± (0,556)	8,160± (0,556)	*
	30	10,816± (0,538)	8,193± (0,538)	*
	60	10,890± (0,550)	8,218± (0,550)	*
	Inicial	9,273 ± (0,571)	7,893± (0,571)	
	7	12,182± (0,620)	10,389± (0,620)	*
AFN	**14**	12,686± (0,567)	10.767± (0,567)	*
	30	12,893± (0,557)	10.827± (0,557)	*
	60	12,886± (0,550)	10.939± (0,550)	*
	Inicial	13,318 ± (0,849)	10,875± (0,849)	*
	7	22,738± (1,057)	15,839± (1,057)	*
AFR	**14**	24,927± (1,060)	17,985± (1,060)	*
	30	25,767± (1,173)	18,494± (1,173)	*
	60	25,814± (1,234)	18,494± (1,234)	*
	Inicial	76.678 ± (5.207)	65,853± (5.207)	
	7	118.970± (4.375)	108,802± (4.375)	
A	**14**	127.778± (6.297)	113,955± (6.297)	
	30	130.049± (6.335)	116,661± (6.335)	
	60	131.504± (5.845)	117,123± (5.845)	

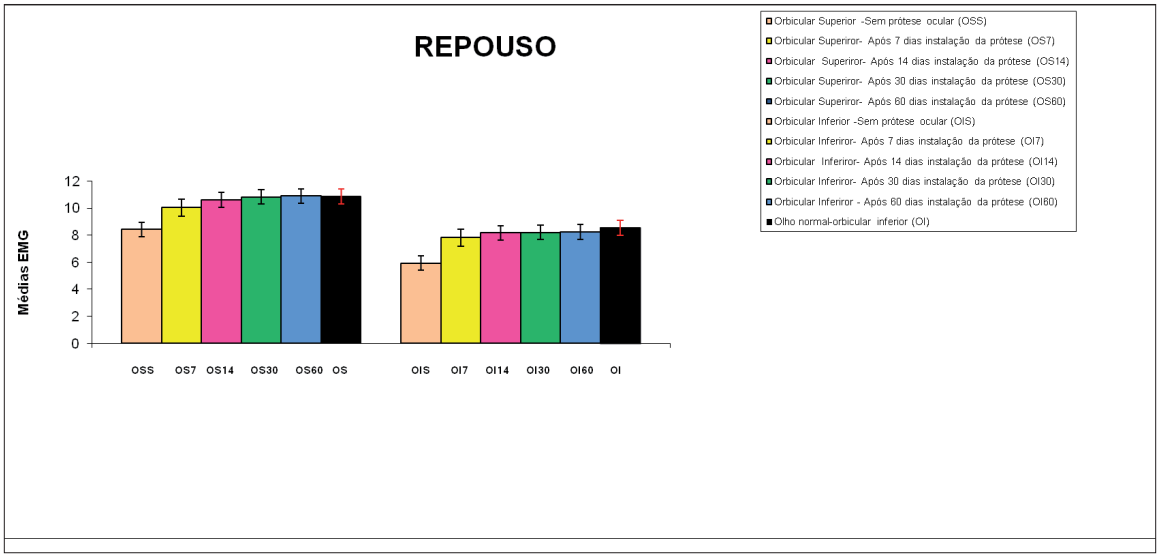

Figura 1. Médias eletromiográficas ao longo do tempo (Inicial, 7, 14, 30 e 60 dias) para os músculos orbicular superior e inferior para a condição clínica de Repouso (Medidas Repetidas para p<0,05).

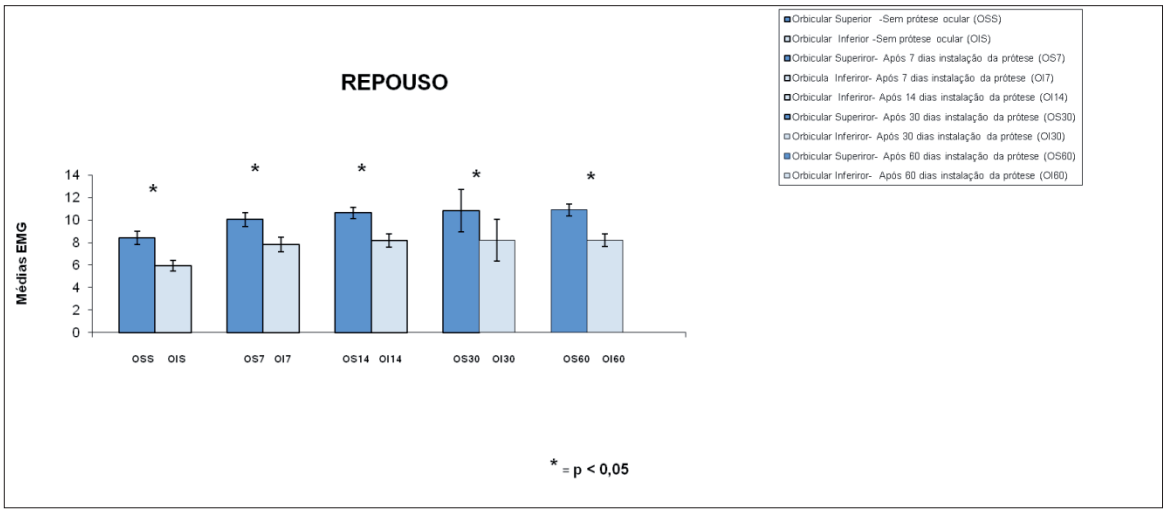

Figura 2. Médias eletromiográficas ao longo do tempo (Inicial, 7, 14, 30 e 60 dias) o fascículo orbicular superior e inferior do músculo orbicular do olho na condição clínica de Repouso (Teste t para p<0,05).

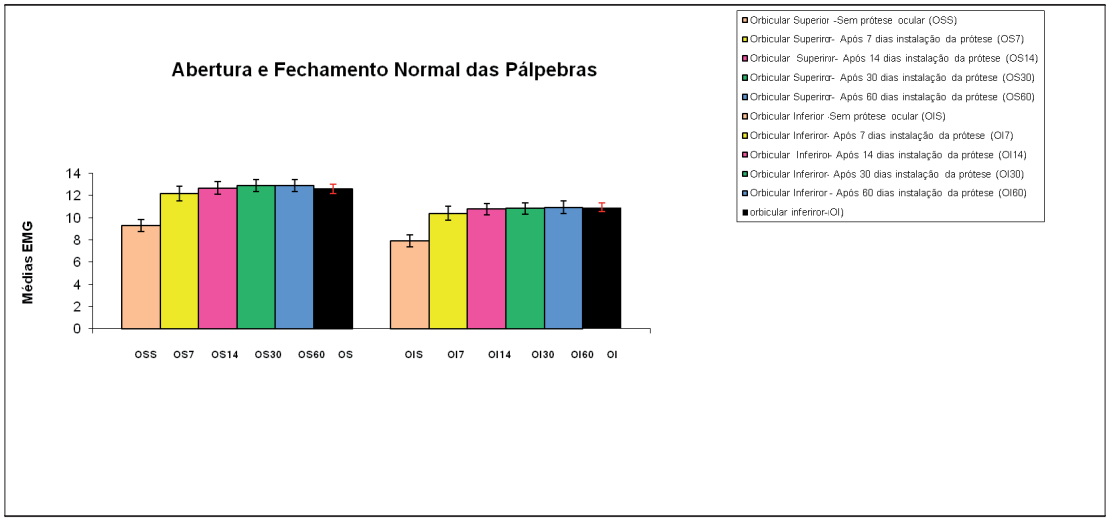

Figura 3. Médias eletromiográficas ao longo do tempo (Inicial, 7, 14, 30 e 60 dias) para os músculos orbicular superior e inferior para a condição clínica de Abertura e Fechamento Normal das Pálpebras (Medidas Repetidas para p<0,05).

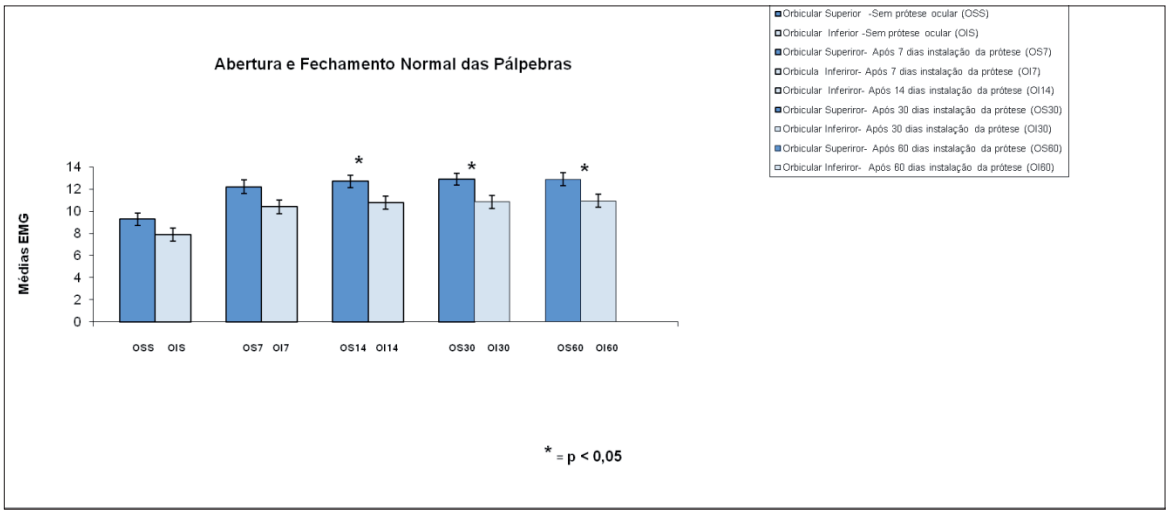

Figura 4. Médias eletromiográficas ao longo do tempo (Inicial, 7, 14, 30 e 60 dias) o fascículo orbicular superior e inferior do músculo orbicular do olho na condição clínica de Abertura e Fechamento Normal das Pálpebras (Teste t para p<0,05).

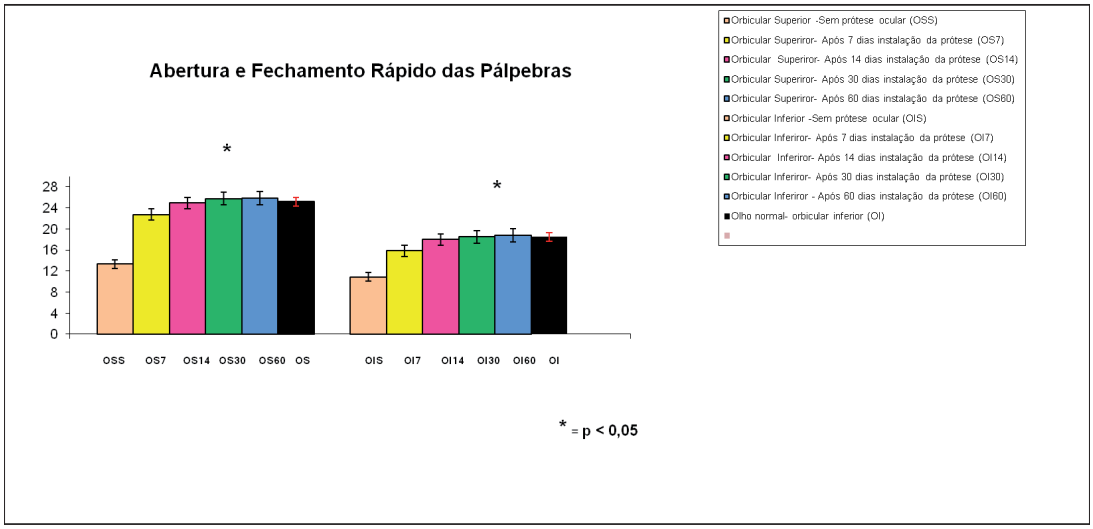

Figura 5. Médias eletromiográficas ao longo do tempo (Inicial, 7, 14, 30 e 60 dias) para os músculos orbicular superior e inferior para a condição clínica de Abertura e Fechamento Rápido das Pálpebras (Medidas Repetidas para p<0,05).

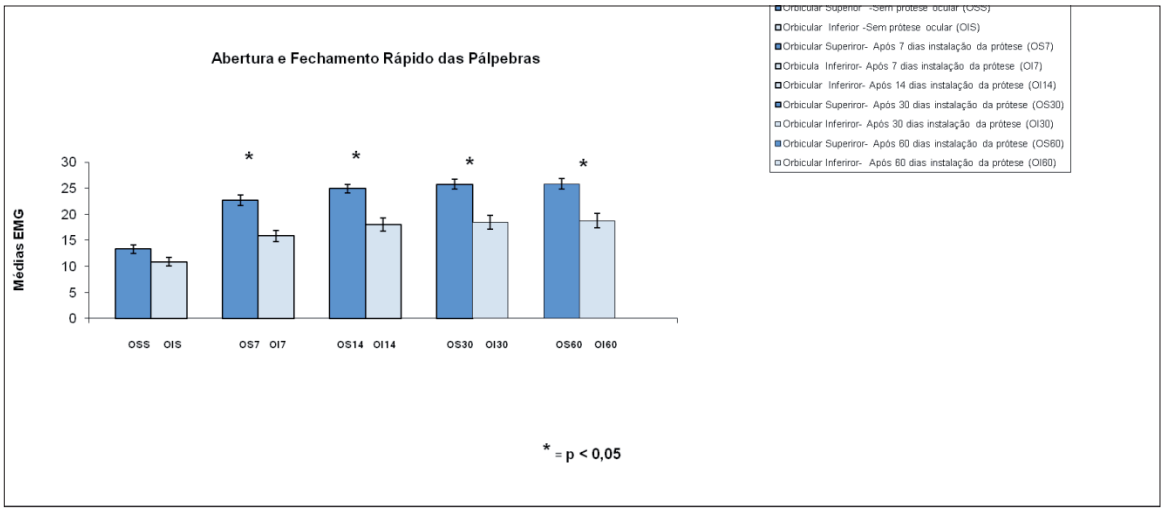

Figura 6. Médias eletromiográficas ao longo do tempo (Inicial, 7, 14, 30 e 60 dias) o fascículo orbicular superior e inferior do músculo orbicular do olho na condição clínica de Abertura e Fechamento Rápido das Pálpebras (Teste t para p<0,05).

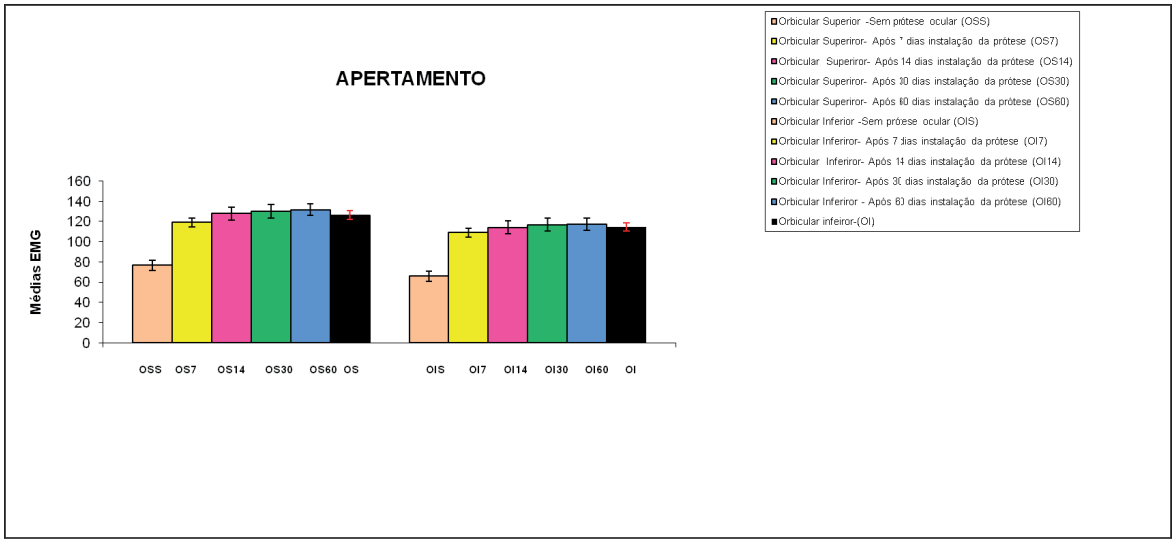

Figura 7. Médias eletromiográficas ao longo do tempo (Inicial, 7, 14, 30 e 60 dias) para os músculos orbicular superior e inferior para a condição clínica de Apertamento das Pálpebras (Medidas Repetidas para p<0,05).

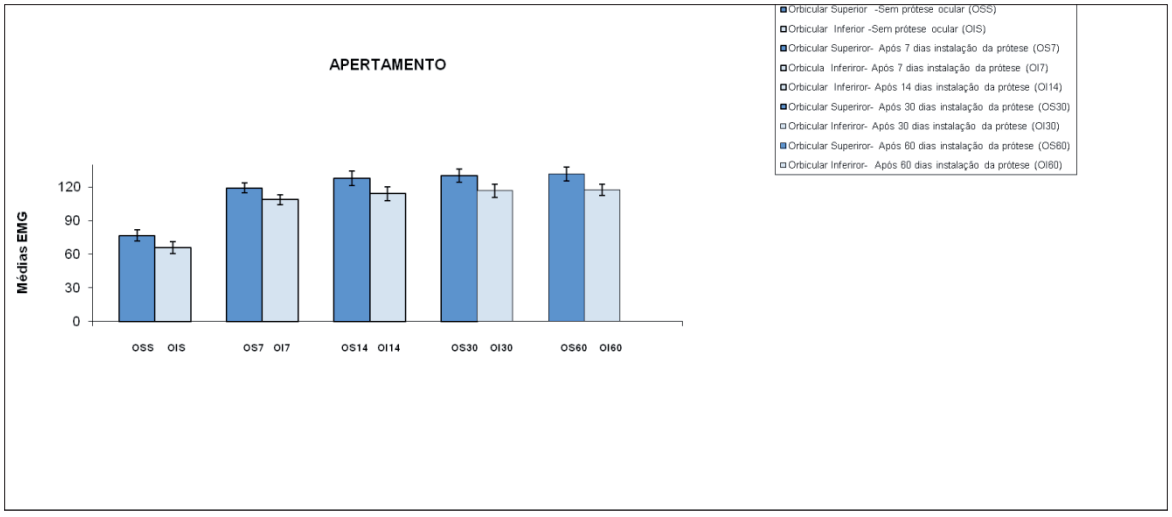

Figura 8. Médias eletromiográficas ao longo do tempo (Inicial, 7, 14, 30 e 60 dias) o fascículo orbicular superior e inferior do músculo orbicular do olho na condição clínica de Apertamento (Teste t para p<0,05).

1.5 Discussão

A hipótese proposta no início do estudo foi comprovada, pois o tratamento reabilitador com próteses oculares estimulou a atividade eletromiográfica dos músculos orbiculares, devolvendo parte da tonicidade muscular. O aumento da atividade elétrica dos músculos ocorreu com apenas uma semana de uso da prótese pelo paciente e em todas as condições clínicas analisadas (R, AFN, AFR, A). Após 14 dias de instalação da prótese a atividade dos músculos orbicular do olho superior e inferior foi estatisticamente significante ao olho contra lateral, nesse caso, atuando como controle, o que evidencia equilíbrio funcional entre os lados e a importância do uso da prótese ocular para devolver a normalidade funcional motora ao indivíduo (tabela 1, figuras 1, 3, 5 e 7).

Infelizmente a literatura é escassa em relação a estudos que abordam este tema. Somente um estudo foi encontrado, no qual os autores relatam que não ocorreu diferença, estatisticamente significativa, nos valores de atividade elétrica antes e após a instalação de próteses oculares.[18] No entanto, a seleção dos pacientes e os métodos empregados na realização deste estudo foram diferentes, o que não nos permite realizar comparações.

O aumento da atividade elétrica encontrado no nosso estudo pode ser decorrente do aumento da força muscular. Sabe-se que quando o músculo permanece inativo por longos períodos, a velocidade de degradação das proteínas contráteis, bem como a redução do número de miofibrilas, é maior que a velocidade com que são repostas, ocorrendo assim atrofia celular. 23 Desse modo, a instalação de próteses oculares, pode ter estimulado a produção de miofibrilas ocasionando melhora da tonicidade do músculo orbicular do olho.

Outro fato que pode estar relacionado ao aumento da atividade elétrica é o tipo de prótese confeccionada. Para todos os pacientes foram confeccionadas próteses individuais, obtidas por meio da moldagem da cavidade anoftálmica. Este

procedimento possibilita o íntimo contato entre a prótese e os tecidos, facilitando a correta adaptação da mesma na cavidade e músculos, conferindo mobilidade à prótese, fazendo com que o paciente movimente mais a musculatura, resultando no aumento da atividade elétrica. [5,9,12,22,24]

Os resultados obtidos durante a condição clínica de Repouso (R) demonstraram atividade eletromiográfica em todos os períodos analisados. Esses dados são compatíveis com o estudo de Patel e Shahani, [25] no qual observaram que não existe nenhuma posição de repouso, também chamada de descanso dos músculos, e que sempre os músculos estão em atividade. No entanto, é esperado baixo nível de atividade elétrica dos músculos durante o Repouso (R) em comparação as outras condições clínicas avaliadas (tabelas 1; figura 1). Nesta condição clínica (R), qualquer alteração no equilíbrio facial, por exemplo, a instalação de uma prótese ocular, pode causar mudanças na tensão muscular, o que foi verificado no presente estudo (tabelas 1; figura 1).

Os mecanismos de movimento esfinctérico ou dilatador, controlando o grau de abertura ou fechamento das pálpebras também é realizado pelo músculo orbicular do olho[26] e, na condição clínica de Abertura e Fechamento Normal (AFN) das pálpebras, possui a primordial função de proteção dos olhos. Nesta condição clínica (AFN), pode-se verificar que o uso da prótese ocular promoveu estímulo funcional entre 7 e 14 dias, equilíbrio que se manteve ao longo do tempo analisado (60 dias), com valores semelhantes aos do olho sadio do paciente (controle) (tabelas 1; figura 3).

O mesmo ocorreu para a condição clínica de Abertura e Fechamento Rápido (AFR) das pálpebras (tabelas 1; figura 5), conhecido como piscar dos olhos, que além de ser um importante fator de proteção também tem por função distribuir a lágrima por meio da córnea, o que mantém a superfície lisa, promovendo a retirada de corpos estranhos. [23] No entanto, os valores eletromiográficos obtidos na análise inicial desta condição clínica são bem menores se comparados com os valores

dos outros períodos avaliados, talvez porque o paciente, antes da reabilitação, não consiga executar o movimento de piscar com segurança, não apresentando habilidade funcional adequada. E, a partir do momento que se instala a prótese ocular, a mesma fornece apoio necessário para o indivíduo executar o movimento de piscar, possibilitando segurança na execução do ato. Nota-se que os resultados se aproximam mais dos valores do olho sadio (controle) após 30 dias de uso da prótese ocular, talvez pelo fato desse movimento exigir controle e precisão, demandando maior tempo para o paciente reaprender a executar o movimento.

Na condição clínica de Apertamento (A), pode-se observar aumento entre os valores numéricos de atividade elétrica do músculo orbicular do olho ao longo do tempo (tabelas 1; figuras 7). Clinicamente este resultado também é muito importante, pois deixa evidenciado que a falta do bulbo ocular pode promover alterações no padrão de ativação da musculatura periorbital, tornando-a hipofuncionada, mas logo após a instalação da prótese ocular, entre 7 a 14 dias, o organismo se restabelece e as fibras voltam a se ativar de maneira semelhante ao olho normal.

Os valores de atividade elétrica durante o Apertamento (A) foram muito maiores em comparação as demais condições clínicas analisadas. Esse fato pode estar relacionado ao músculo orbicular do olho ser um importante músculo esfincteriano, possuindo fibras dispostas em círculos concêntricos ao redor da margem orbital e nas pálpebras, integrando o grupo muscular cutâneo da cabeça, responsável pelos movimentos faciais e da expressão facial.[27] Posiciona-se ao redor do olho, excedendo grandemente os limites da órbita.[28] Sabe-se que o fechamento forte das pálpebras é executado com a colaboração da parte orbital, levando a pele da fronte, têmpora e bochecha em direção ao ângulo médio das pálpebras. [29] Desse modo, acreditamos que durante a análise de Apertamento (A) o músculo orbicular do olho foi auxiliado por outros músculos da face, o que deixou os valores de atividade elétrica mais elevados.

A porção superior do músculo orbicular do olho apresentou maior atividade que a porção inferior, em todas as condições clínicas analisadas, sendo os valores estatisticamente significativos, para as condições de R, AFN, AFR (tabela 2, figuras 2, 4, 6 e 8). Isso pode estar relacionado com a presença de outros músculos na porção superior, como o elevador da pálpebra superior, que é preservado na cavidade anoftálmica, após a enucleação do bulbo ocular, [16,17,23,26-29] auxiliando nos movimentos da futura prótese.

A maior dificuldade encontrada na execução do presente estudo foi o posicionamento dos eletrodos no músculo, exigindo do operador bastante técnica e cuidado para posicioná-los de modo adequado, para analisar exatamente a porção superior e inferior do músculo e não a lateral.

A maior parte dos pacientes relatou que após a instalação da prótese ocorreu maior lacrimejamento do globo ocular, dado clínico de suma importância para o nosso estudo. Na literatura, diversos autores afirmam que a prótese ocular tem o objetivo de restabelecer a estética facial enquanto mantém a forma anatômica da cavidade, inibindo o colapso palpebral, direcionando a drenagem lacrimal, prevenindo o acúmulo de fluido na cavidade, mantendo o tônus muscular, protegendo a cavidade contra agressões por irritações com poeiras, corpos estranhos e objetos. [1,4,5,9,15,18,21,22,24] Desse modo, a instalação da prótese pode ter feito com que os ductos lacrimais, que anteriormente poderiam estar obstruídos devido à atresia dos músculos, fossem reativados.

Outro dado clínico importante a ser discutido é o tempo de adaptação da prótese ocular pelo paciente, que parece ocorrer entre 7 a 14 dias, já que após este tempo os valores de atividade elétrica em todas as condições clínicas analisadas mantiveram-se constantes e próximos aos valores do grupo controle.

Com intuito de elucidar ainda mais o comportamento da prótese ocular em relação à musculatura periorbital, estudos longitudinais devem ser

realizadosfuturamente avaliando também outros fatores como a presença ou não de implantes orbitários ou mesmo as diferentes técnicas empregadas para obtenção da prótese.

1.6 Conclusão

O tratamento reabilitador com próteses oculares para pacientes com anoftalmia unilateral promoveu aumento da atividade elétrica do músculo orbicular do olho, restabelecendo a tonicidade muscular e a normalidade funcional motora ao indivíduo.

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ANEXOS

ANEXO 1 – CERTIFICADO DO CERTIFICADO DO COMITÊ DE ÉTICA EM PESQUISA (CEP).

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C E R T I F I C A D O

Certificamos que o Projeto ***"Atividade elétrica dos músculos orbiculares antes e após a instalação de próteses oculares"***, sob a responsabilidade da Pesquisadora **DANIELA MICHELINE DOS SANTOS**, está de acordo com os Princípios Éticos em Pesquisa e foi aprovado em 12/08/2011, de acordo com o Processo FOA-01053/2011.

Araçatuba, 23 de agosto de 2011.

ALBERTO CARLOS BOTAZZO DELBEM
Coordenador do CEP

ACBD/wbm.

Faculdade de Odontologia e Curso de Medicina Veterinária
Rua José Bonifácio, 1193 CEP 16015-050 Araçatuba – SP
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Anexo 2 - Normas para publicação do periódico *Ophthalmology*

OPHTHALMOLOGY

GUIDE FOR AUTHORS

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The following abbreviations have been deemed as accepted and understood abbreviations without any further clarification needed. With these acronyms, no definitions are required at any point in the text (not even first use) and they are also acceptable in titles:

AIDS	acquired immune deficiency syndrome
cDNA	copy deoxyribonucleic acid
CNS	central nervous system
DNA	deoxyribonucleic acid
HLA	human leukocyte antigen
IM	intramuscular(ly)
LASIK	laser in situ keratomileusis
mRNA	messenger ribonucleic acid
RNA	ribonucleic acid

ABSTRACT

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Debra L Hanson, MS; Susan y. Chu, PhD; Karen M. Farizo, MD; John W. Ward, MD; ***and*** *the Adult and Adolescent Spectrum of HIV Disease Project Group*

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Debra L Hanson, MS; Susan y. Chu, PhD; Karen M. Farizo, MD; John W. Ward, MD ***for*** *the Adult and Adolescent Spectrum of HIV Disease Project Group*

OR The Writing Group for the DISC Collaborative Research Group OR The DISC Collaborative Research Group Writing Committee**

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Registration of Clinical Trials, Leonard A. Levin; Justin L. Gottlieb; Roy W. Beck; Daniel M. Albert; Thomas J. Liesegang; Creig S. Hoyt; Andrew Dick; Robert Bhisitkul; Andrew P. Schachat, Arch Ophthalmo 2005;123:1263-4

The International Committee of Medical Journal Editors (ICJME) has information at http://clinicaltrials.gov/ct2/manage-recs/resources#InternationalCommittee

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Ophthalmology will be vigilant in the quest to ensure that the public continues to trust that the medical literature and our authors are not inappropriately influenced by their financial relationships with industry or other prejudices. If allegations arise, the journals must and will react.[2]

1. Drazen JM, de Leeuw PW, Laine C, et al. Toward More Uniform Conflict Disclosures. The Updated ICMJE Conflict of Interest Reporting Form. N Engl J Med 2010;363(2):188-9.

2. DeAngelis CD, Fontanarosa PB. Resolving unreported conflicts of interest. JAMA. 2009;302(2):198-9

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Ophthalmology publishes color photographs and images on the cover of the printed journal. The Cover Page Editor for the journal is James D. Brandt, M.D. of the University of California, Davis.

Our cover pages are usually generated from figures in articles appearing in a given issue, but our criteria are that images considered for the cover be visually striking and technically excellent (and fit on the cover layout). In case there are no appropriate images among the articles slated to appear in a given issue, we then turn to photographs submitted by ophthalmic photographers and clinicians for consideration. These pictures don't need to be something rare – our goal is to find technically excellent and striking images that make the reader look at the cover and say 'wow'. So a gorgeous image of a common ophthalmic finding is just as welcome as a photo of something rare. Square or portrait (vertical) format images work best, as they can be laid out with space for the text box announcing issue highlights along with room for the mailing label along the bottom. Composites of several photographs (*e.g.*, a sequence over time or a comparison of color photography with angiography, pathology, etc.) also work well and provide flexibility in layout.

To submit an image for consideration as a future cover, Dr. Brandt is happy to take a look at images sent to him by e-mail (jdbrandt@ucdavis.edu); please use the subject header "Cover Image for Ophthalmology" so that your e-mail is appropriately flagged. Send Dr. Brandt a JPEG version of your image along with a brief description of the case (a one sentence description is all that is run with the photo in the Table of Contents) and the names and institution of the clinician(s) and photographer(s) responsible for the image (limit of two each). If it is determined that the photograph is appropriate, he will work with you to generate appropriate file(s) for publication (see technical considerations below).

If your image is selected for use as a potential cover image, *Ophthalmology* will need a completed copyright transfer form (see downloadable forms.) Once the form is received, the Editorial Office will put the image in queue for a future issue. Cover images submitted by photographers and clinicians in this manner are used for covers only two to four times a year, so even if we determine that your image is appropriate for a future cover, it may take a year or more before it would appear in print.

TECHNICAL CONSIDERATIONS

The four color printing process used in producing the journal cover requires the highest resolution files to achieve the best quality. Should your image be chosen for the cover, the file(s) should be available as minimally compressed JPEG or ideally uncompressed (e.g., TIFF or PSD) high resolution files of at least 8"x8" at 300 dpi. Screen grabs from video (even high definition video) do not upscale adequately for print and look quite blurred in print; similarly, output from most diagnostic instruments do not upscale well and can look very pixelated with 'jaggies' on a cover. The only exception to this is when images from video or diagnostic instruments are reproduced as part of a composite – smaller images can reproduce well, and Dr. Brandt will work with you to see if adequate quality can be achieved in this manner.

Please do not perform any post-processing of the digital image other than light dusting and spot removal. sRGB colorspace is fine; do not convert to CMYK, as this will be done by the publisher during pre-press processing. The high resolution files for final publication are usually too big to send by e-mail. You can use a free web-based large file transfer service (e.g., www.yousendit.com) or mail a CD to Dr. Brandt.

COPYRIGHT CONSIDERATIONS

Copyright for the image(s) must be transferred to the American Academy of Ophthalmology. The copyright transfer form must be signed by all the listed authors. Please note that if the image has already appeared as part of an article in another journal or in a textbook, you probably do not have the right to transfer the copyright to the AAO. If the image has appeared as part of photography contest (and especially if it won a prize), please check the conditions of your contest participation – you may have signed away the right to submit the image to *Ophthalmology*.

The copyright transfer form should be scanned and sent to Dr. Brandt as an e-mail attachment.

DEVELOPING A MANUSCRIPT

Authors are well advised to plan for eventual publication early in the conduct of their research, including the choice of journal and the order of authorship. The most current Guide/Instructions for Authors for the intended journal should be obtained and read carefully in preparation for eventual manuscript submission. The order of authorship, assuming more than one individual is involved, should be established by mutual consent early in the manuscript preparation process to avoid subsequent conflicts. In rare instances, authors ask for changes in authorship after submission and do not agree themselves what they want. In such cases, the Editor will withdraw the manuscript from consideration and allow the authors to resubmit once they agree, with new and correct copyright transfer forms. For *Ophthalmology*, a listing as an author implies a substantial intellectual contribution to the conduct of research and preparation of the manuscript (see previous sections regarding authorship, group authorship, and acknowledgments).

Clinical or basic science investigations must be designed (planned) properly and executed rigorously to permit meaningful analysis of resulting data. Appropriate study design experts, biostatisticians, or other advisors as indicated should be incorporated in both the initial planning and/or the authorship for all research publications. As part of the Structured Abstract, authors are required to describe the design of their study. The specific designation of a "study design" serves several purposes. It forces authors to give careful thought to what they have actually done, it provides an important shortcut for editors and reviewers to use in categorizing the submission, and it provides the busy reader with a useful capsule of the type of study that was performed. Please review separate Study Design Schemes section in this guide.

It is strongly recommended that you plan the research, obtain appropriate IRB and or regulatory approval, do the research and then write the manuscript. In other words, prospective research is favored.

Literature Review

A thorough review of available literature with appropriate data bases (Index Medicus, PubMed, MEDLINE, Cochrane Central Register (Cochrane Library), EMBASE, LILACS, etc.) is mandatory during the planning phases of a research project to avoid unnecessary duplication of effort and errors in acknowledging credit due others. When you allude to your interpretation of the previous literature, e.g., "we report the first case of …" in the methods section or discussion section be sure to explain the depth and breadth of your search strategy – where you searched, on what search terms, when the search was undertaken, and whether any more than a basic computer search was conducted. Non-English literature should be included with help from library resources as necessary. *Ophthalmology* requests that authors include only essential references that relate directly to the work being reported and that they verify their accuracy. Refer to references for formatting of various types of references.

To expedite processing, if you are asked to revise your manuscript, you will also be asked to provide a photocopy of the title page (that include publication information—journal name, vol. year, page numbers) of any work cited that was published prior to 1970 in the United States. You will also be asked to submit the title page for all work cited that was published outside of the United States regardless of year. Also include for any books referenced, the book's copyright page and the first page of any chapters referenced. Although not required upon first submission, it is strongly suggested that you make copies of these items during the researching of your manuscript so they are readily available if needed.

Organizing Research Data

The Study Design should be defined clearly before data collection is carried out with pre-designed forms/methodology to enable proper preservation and eventual analysis of data collected, regardless of whether data collection is retrospective or prospective.

Epidemiological and Statistical Considerations

Generally, statistical tests should be applied appropriately with consideration for potentially confounding variables. P-value and/or confidence intervals should be provided as appropriate.

Two key questions should be answered prior to submission of the manuscript:

1. Is the information adequate to permit interpretation of the results?

2. Are the conclusions justified?

Cautionary notes about terminology:

1. Ensure proper use of "procedures" vs. "eyes" vs. "patients" vs. "subjects".

2. Clarify whether or not the "last" follow-up information or a summary of "interval" information is presented. Interval follow up is preferred.

(DiLoreto DA Jr, Bressler NM, Bressler SB, Schachat AP. Use of best and final visual acuity outcomes in ophthalmological research. Arch Ophthalmol. 2003;121:1586-90.)

3. Univariate and multivariate analyses are frequently misused in current literature. Their appropriateness should be verified by expert consultation as necessary.

4. P-values are frequently misused.

5. "Incidence" describes new cases over some interval of time

6. "Prevalence" describes cases at one defined interval in time.

7. Remember to distinguish accurately between “standards” and “standardized” and “computed” and “computerized”

8. The terms “safety” and “efficacy” are hackneyed and often misused. Please review a pertinent editorial on this:

Schachat AP, Chambers WA, Liesegang TJ, Albert DA. Safe and Effective. Ophthalmology.2003;110-2073-4.

DRUG/EQUIPMENT NAMES

DRUG NAMES

Do not use drug trade names in titles. In the abstract use the generic name, but include the trade name once, in parentheses, after the first use of the generic name. In the text, use the generic name, but include the trade name once, in parentheses, after the first use of the generic name.

Device/Equipment NThe device name is permitted in the title, abstract and text. However after the device has been identified at first use in the abstract and text, thereafter refer to it generically. In the case of equipment, include the manufacturer’s name, city, state and/or country parenthetically at the first use in the text.

EDITORIALS

General: A two-page editorial is usually published in each issue of Ophthalmology. Editorials are generally solicited by the Editor- in-Chief, although unsolicited submissions will also be considered.

Editorials may deal with clinical or non-clinical topics in summary form and must not exceed 1400 words, including references. Often editorials are linked with a particular manuscript awaiting publication and, therefore, adherence to deadlines is critical and mandatory. Although discouraged, if a figure is absolutely necessary, decrease the word count by approximately 200.

Submission: The text of the editorial, a signed copyright(s) and ICMJE conflict of interest form(s) need to be submitted – you can add anything you wish the editor to know in the “enter comments” section of the submission process. Figures are generally not included or encouraged in these types of submissions. If figures are used please submit following the same criteria for manuscripts outlined above. Most likely they will be online only supplemental materials. Copyright form(s) and ICMJE conflict of interest form(s) should be uploaded with initial submission but must be uploaded no later than first revision.

Process: Editorials undergo peer review regardless of whether they are solicited or unsolicited submissions. Once received, an Editorial is assigned a number of which the author is advised. The paper will go through the usual review process, often with some specific insight or guidelines offered to reviewers by the Editor. The author is then advised of any changes which need to be made and references are checked. Upon return of the revised paper, the editor gives his approval and it goes to the publisher.

ENGLISH EDITING ASSISTANCE

Members of the (United States) Council of Biology Editors (and others) have expressed interest in helping authors of manuscripts submitted to Ophthalmology with English editing. Authors may contact these individuals or services directly by mail, phone, fax, or e-mail. All financial arrangements are strictly between the two parties. Ophthalmology neither endorses nor recommends any specific individual or service. The Journal office may return a submission and recommend professional editing prior to review. Professional editing, while often recommended by the editors or reviewers, does not ensure acceptance or publication of a manuscript.

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EVIDENCE BASED STUDIES – ADDITIONAL GUIDELINES

The journal is eager to receive evidence-based studies. These papers incorporate a systematic review of the literature and summarize clinical recommendations using the structured format outlined below. Authors interested in submitting these manuscripts are encouraged to correspond with the Editor-in-Chief in advance to be sure that the topic is of interest. The main text of these articles will conclude with summary recommendations for testing or therapy of the clinical problem discussed. Each recommendation will include author-designated and peer reviewed ratings displayed in superscripts (see definitions below) indicating the importance of recommendations to clinical outcome (A, B, C) and the overall strength of evidence of supporting literature (I, II, III). The strength of evidence ratings will be based on author judgment as to the quality and validity of the existing fund of peer-reviewed or other published literature. Authors and co-author methodologists with special expertise in the topic may be recruited by the Journal Editor to write these summary updates.

Authors will be expected to conduct thorough literature searches (systematic reviews) of national and international peer-reviewed publications utilizing available databases and other sources as necessary. In many topic areas no recent high-quality studies may be available, in which case the discussion should emphasize to clinicians what studies are needed and the inadequacy of the evidence that justifies current management.

Completed articles will be reviewed using the usual Journal peer-review process, including author-assigned ratings for the importance of clinical recommendations and the strength of supporting evidence. Publication may be scheduled, after revisions as indicated through peer-review, and articles will be placed in regular forthcoming issues at the discretion of the Editor-in-Chief.

Definitions of Superscript Ratings:

Superscript ratings for clinical recommendations:

“A” indicates that the recommendation is considered very important or crucial to a good clinical outcome

“B” that the recommendation is considered moderately important to clinical outcome

“C” that the recommendation may be relevant but cannot be definitely related to clinical outcome.

Superscript ratings for peer reviewed or other cited evidence:

“I” indicates strong evidence in support of the statement. In general, the study or studies cited used designs which allowed the issue to be addressed, were performed in the population of interest, were executed in a manner to produce reliable and accurate data, and were analyzed using appropriate statistical methods. The study or studies produced either statistically significant differences between control and experimental groups or showed no statistically significant differences, despite a design, which had high statistical power to detect differences and/or narrow confidence limits on the parameters of interest.

Strong evidence includes well-done randomized controlled clinical trials designed to address the issue in question, especially regarding the efficacy of treatment or the superiority of one treatment over another. Well-done meta-analyses (retrospective reviews of previously published randomized controlled trials) may also constitute level “I” supporting evidence.

“II” indicates there is substantial evidence in support of the statement but the evidence lacks some qualities, thereby preventing its justifying the statement without qualification. Deficiencies might include unavailability of well-done randomized trials, or studies lacking other elements of high-quality evidence such as adequate control groups, sufficiently long follow up, good compliance with therapy, or acceptable loss to follow up.

Nonrandomized comparative trials involving sufficient subjects to demonstrate statistically significant differences between study and control groups might provide strong evidence for the efficacy of a therapy. Noncomparative case series or case reports might be justifiably included as strong evidence for linking complications or adverse events to a specific therapy without stating the probability of their occurrence.

Observational studies, including control groups such as Cohort studies and Case-control studies, might provide strong evidence for or against therapy in terms of longitudinal data about disease natural history, outcome of therapy, adverse events, or specific anatomical or functional outcomes. Well-done cross-sectional studies might provide strong evidence for the importance of the clinical problem. Well-done systematic literature reviews or meta-analyses might also provide moderately strong evidence for or against a test or therapy.

Even an otherwise well-done randomized controlled trial dealing with the issue of interest might have been performed using too select a population and may not be clearly applicable to a broader population of interest, or it might have produced only marginally statistically significant differences between control and experimental groups. A large consecutive case series might also fit into this category if it compares outcome only to a historical control group from the same clinical setting.

“III” indicates a weak body of evidence insufficient to provide support for or against the efficacy of a test or therapy and would generally apply to panel consensus or individual opinions, small noncomparative case series, and individual case reports. Non-comparative studies (without controls), cohort studies with variable follow up across the patient population studied, retrospective chart reviews with missing data, or even randomized controlled trials evaluating highly subjective outcome data would be examples of weak forms of evidence.

Authors of evidence-based manuscripts should follow the guidelines outlined in the Instructions for authors unless specifically stated below:

Title Page - The title should clearly describe the main topic and indicate the manuscript is an evidence-based summary. (Example: Management of nonsymptomatic retinal tears and lattice degeneration: an evidence-based summary.) The title should include the phrase: evidence-based review or evidence-based update.

Précis - The précis should indicate what new insight the article offers or what principal controversy persists.

Structured Abstract Abstracts for evidence-based manuscripts must be limited to 250 words and include the following five sections:

1. Topic: identify the specific clinical problem and therapy to be evaluated.
2. Clinical relevance: characterize the magnitude/importance of the problem/disorder and define the current standard of care.
3. Methods/literature reviewed: describe the sources of peer-reviewed materials utilized and dates of publication.
4. Results: summarize the materials identified and obvious contrasts with prior and current standards of care.
5. Conclusion: summarize the strength of evidence for the recommended therapy or test.

Text - The text should utilize standard Journal formatting as described in *Ophthalmology's Instructions* for Authors and be divided into five distinct sections:

1. The introduction/background (unlabeled) should clarify the magnitude of the clinical problem, (prevalence or incidence) and provide perspectives on the importance of its management to patient well-being and quality of life.

2. The Sources and Methods of Literature Search (titled) should identify the databases and/or specific journals searched and the dates of publication. The methodology of the literature search, including criteria utilized for selection and inclusion, should be listed insufficient detail to permit duplication of the effort. If only poor quality supporting evidence exists, author comments should emphasize this in the discussion, in addition to assigning appropriate overall ratings for the strength of supporting literature.

Suggested sources for literature searches include, for example, PubMed (http://www.pubmed.com) and Medical Matrix (http://www.medmatrix.org).

The Cochrane Library is an additional excellent source of high quality reviews of general medical information, systematic reviews, and meta-analyses, including some eye topics (http://www.cochranelibrary.com).

3. Summary of Evidence (titled) should summarize the findings in text or tables.

4. The Clinical Recommendation(s) (titled) should be listed in order of importance, and each separate recommendation accompanied by bracketed superscripts "A,""B," or "C," indicating the author's impression as to its importance to clinical outcome. Superscripts "I,""II," or "III" will also be used to indicate the author's judgment about the overall (average) veracity of supporting literature. When appropriate, recommendations should include typical clinical scenarios. (Example of clinical recommendation and author-designated superscripts: A symptomatic superior horseshoe retinal tear with a cuff of surrounding subretinal fluid should be promptly encircled by several rows of laser burns. [A, I]). Please indicate appropriate crosschecking with AAO products (PPPs, Pro-Vision Series, Focal Points, Basic and Clinical Science Course Books) to avoid or acknowledge inconsistencies in clinical recommendations.

5. References should be limited to the highest quality studies available, regardless of the study type. For reference formatting examples, please go to References and Reference Style Guide

FIGURES (illustrations, graphs, photos for all submission item types)

Whether submitting individual images or a composite, please note the artwork guidelines that follow. Figures will be included in the final PDF but the figure file names will not be visible to reviewers. Figures, that are not a composite, should be loaded to individual files and clearly identified. For all

figures the figure number must be entered in the file description field before the figure is uploaded. This can be done on the “attach files page” by choosing “figure” in the pull down menu. Below it there is the “Description” box; enter the figure number to the right of the word “Figure” before opening and attaching each figure file. Do not enter legends here, just the figure number. For linear art created by MSOffice or similar type software, the figure number should also be typed on the figure page.

The Journal may provide one page of color illustrations per calendar year for each first author without charge, at the discretion of the Editor-in-Chief. The criterion generally used is whether the color illustration best conveys the information being illustrated. Additional color pages may be published at the author’s expense. Formatting requirements may lead to illustration placement on more than one page, although we try to avoid this as much as possible. The cost varies from $650 to $1200 per additional page and you will be advised of the cost when you receive your proofs.

If a manuscript has been reviewed and accepted with color photos, it must be published with color photos. The author is responsible for page charges for color photos that occupy more than one page, and cannot opt to have them printed in black and white without the permission of the journal office. Please check with the Journal office or the publisher for information.

Clinical photographs (including those generated electronically from machines such as MRIs, fluorescein angiography, visual fields, etc.) must be masked to prevent identification of the patient. Clinical photographs that permit identification of an individual (those exposing anything more than just the eyes) must be accompanied by a signed statement by the patient or guardian granting permission for publication of the pictures for educational purposes. All graphics, including composites (such as clinical photographs, fluorescein angiography, CT, MRI, x-ray, photomicrographs, etc.) should be submitted at the actual size that they would be presented in the journal, 100 % of their print dimensions so that no scaling is necessary, but remember that very few pictures are full page pictures. The width should be no more than 7 inches.

The publisher will not re-draw or rework your photographs or illustrations. Submit all figures in the order they appear in the legends. If there are six or more color pictures, a composite maybe preferred so they fit on a standard journal page and potentially decrease your color figure costs. However, be sure to do this only if the quality of what you are attempting to portray with the figures is not compromised. The completed composite must meet the guidelines for artwork submission. Composites must also be labeled using typed text in a corner of the each image. Composite are encouraged for multipanel figures (e.g., Fig 1A, 1B, 1C, 1D, 1E).

	BLACK & WHITE LINE ART*	COLOR LINE ART*	LINE ART/PHOTO COMBINATION	BLACK & WHITE PHOTO	COLOR PHOTO
TIFF	YES	YES	YES	YES	YES
WORD FILE	YES	YES	NO	NO	NO
PDF FILE	YES	YES	NO	NO	NO
COLOR MODE IN PHOTOSHOP	BITMAP	RGB		GRAYSCALE	RGB
RESOLUTION (PIXELS/ INCH)	150	300**	600 (will be large file size)	300	300
TYPICAL FILE SIZE	Less than 2MB	No larger than 10 MB	Can be as large as 60 MB	More than 10 MB	5 to 15 MB

***** Line art can be submitted in the original file format that it was created (e.g., Word, Excel, PowerPoint, etc.)

****** If very little or no text – otherwise, print to a PDF

GENERAL

- The physical dimensions of any artwork must fit within the dimensions of the pages within the Journal. (i.e., width no more than 7 inches)
- Be consistent in the font type and size used in the artwork.
- Artwork must use recommended naming conventions. Some examples include fig1.tif (figure 1 in TIFF format). Always ensure that the file extension is present to ensure quick and easy format identification.

We have upgraded our electronic submission system. You may now choose to load each figure file individually or to take all the individual figures files and zip them into a single zip file, which will reduce the size of your upload (and hence the time) it takes to upload your files and complete your submission. This does not mean you can load everything in one file – each piece needs to be in a separate file and those individual files can then be zipped and uploaded. The system will unzip them for you.

If you choose to upload a ZIP file, compress the files needed for your submission or revision using a ZIP program, such as WinZip or StuffIt (free trials of these are available online). Use the Browse button to find the zipped file and then click on the Attach button to upload it. As it loads, it will unzip automatically within the system. Then using the drop down menus and description fields to the left of the file names, select the appropriate items and type in the correct descriptions, E.G. Figure, then Figures 1A through E.

FINANCIAL SUPPORT

Identify all funding sources, public and private. On the title page please state “Financial Support: None” or provide the agency name and city, company name and city, fellowship name, and grant number. If there is financial support, please provide also one of the two following statements: “The sponsor or funding organization had no role in the design or conduct of this research.”

OR “The sponsor or funding organization participated in (list those that are appropriate: the design of the study, conducting the study, data collection, data management, data analysis, interpretation of the data, preparation, review or approval) of the manuscript.”

FORMAT FOR MANUSCRIPT TEXT

Double space the entire manuscript after the title page. Line numbering will be automatically inserted into your manuscript text file by the system when it builds the PDF. The average published manuscript in Ophthalmology, including references, is up to printed 6 pages in length. This corresponds, depending on font size and printing, to between 16-20 pages of double-spaced draft.

1. TITLE PAGE

The title page should include the following information.

a) Title: The title should be meaningful and as brief as possible. No longer than 135 characters. Declarative titles should not be used. Do not use abbreviation in titles other than those approved in Abbreviations. Please do not include any lecture titles or award titles in the manuscript title. Recognition of such can be made with an asterisk at the end of the title and the award/lecture noted in the footnotes.

b) Authors: Provide first name, middle initial, last name and no more than two advanced degrees or professional certifications. The Journal does not print society affiliations. Also indicate each author's affiliation during the course of the study in footnotes on the title page using superscript numbers, not symbols (e.g., Ronald Smith[1]). Specifically identify the corresponding author.

Please carefully review the very extensive "Authorship" section of this guide. It carefully addresses authorship criteria, group/writing committee authorship, guest authors, ghost authors, corresponding authors and related responsibilities, numbers of authors, and entering authors into the system.

c) Meeting Presentation: If the material is under consideration for presentation or has been previously presented, supply the name, place, and date of the meeting. (e.g., the American Academy of Ophthalmology Annual Meeting, November, 2003). This is especially important for AAO Meeting papers as we have first right of refusal on these papers.

d) Financial Support: - Identify all sources, public and private. On the title page please state "Financial Support: None" or Provide the agency name and city, company name and city, fellowship name, and grant number. If there is financial support, please provide also one of the two following statements: "The sponsor or funding organization had no role in the design or conduct of this research."

OR

"The sponsor or funding organization participated in (list those that are appropriate: the design of the study, conducting the study, data collection, data management, data analysis, interpretation of the data, preparation, review or approval of) the manuscript."

e) Conflict of Interest: - A blanket statement that "no conflicting relationship exists for any author" is requested on the title page, if appropriate. Otherwise, the corresponding author should summarize the disclosures sent to him by each author and upload the ICMJE form of each author as well. (See detailed conflict of interest section above.) Either way ICMJE conflict of interest forms must be uploaded from every author.

f) Running head: The running head, also known as the short title, which appears on the top of each right hand published page of your manuscript, should be no longer than 60 characters.

g) Address for reprints

2. Abstract – see separate "Abstract" section

3. Text

a. Introduction: Without a heading, the introduction should refer only to the most pertinent past publications and should not be an extensive review of the literature.

b. Intervention or Methods or Testing: This section should be written with sufficient detail to permit others to duplicate the work. Also required are the following, as appropriate within the methods section:

FOR HUMAN SUBJECTS:

- Informed Consent - Manuscripts reporting the results of experimental investigation on human subjects must include a statement to the effect that informed consent was obtained.
- HIPAA - For studies conducted in the United States a statement that the work is HIPAA-compliant is required (See Ophthalmology 2003; 110:1074-5.)
- IRB/Ethics Committee - Human subjects/materials/medical records - If the study being reported involved human subjects, human derived materials, or human medical records, please include one of the two following statements in the Materials/ Patients and Methods section:

Institutional Review Board (IRB)/Ethics Committee approval was obtained

OR

IRB/Ethics Committee ruled that approval was not required for this study.

- Declaration of Helsinki - A statement is required that described research adhered to the tenets of the Declaration of Helsinki
- Clinical Trial Registration – A statement should be provided in the methods section of the manuscript that this was done and where the registration information is publicly available. (see Clinical Trial Registration for more detailed information)
- We encourage authors to use the American Joint Commission on Cancer TNM Classification scheme when describing patients with ophthalmic malignancies (American Joint commission on Cancer. AJCC Cancer Staging Manual. 7th ed. New York, NY: Springer; 2009.) This classification scheme can also be found at http://www.cancerstaging.org/mission/whatis.html

FOR ANIMAL SUBJECTS:

If animals were used in a study, the notice of approval by the appropriate Institutional Animal Care and Use Committee should be included in the methods section of the manuscript.

c. Results: Results must be concise.

d. Discussion: The discussion should be restricted to the significant findings presented. Digressions and theorizing are not appropriate. NOTE: Discussion is the final section of a manuscript. Please do not insert a conclusion section; only the abstract has a conclusion section.

IN PRESS/ONLINE RELEASE

As of September 1, 2007, manuscripts are automatically available on line as “in press” articles after completing the proofing process. This early online release is not a draft version since it is produced after all editorial and author corrections are made; however there is a disclaimer in case a critical error is found. No routine editing will occur once this is online. The “in press” version is not meant to be a last editing opportunity for authors, however if a major, critical error is found we may be able to make corrections prior to publication or an erratum will be published in a future issue. This “in press” version is removed as soon as the monthly issue is available online.

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INSTITUTIONAL REVIEW BOARD/ETHICS COMMITTEE APPROVAL (IRB)

If the study being reported involved human subjects, human derived materials, or human medical records, please include one of the two following statements in the Materials/ Patients and Methods section: Institutional Review Board (IRB)/Ethics Committee approval was obtained OR IRB/Ethics Committee ruled that approval was not required for this study.

LEGENDS

Figure legends (photos, drawings, graphs) should follow figures. Figures must be numbered consecutively as they appear in text. Histological figures, stains and magnifications should be noted in the legends. Any figure that has been published elsewhere should have an acknowledgment to the

original source; a copy of the release to publish the figure, signed by the copyright holder, must also be submitted. Legends must identify all symbols, abbreviations, acronyms or letters that appear on the prints. Table legends should be within the table. All abbreviations in each table must be defined even when repetitive to each other.

LITERATURE REVIEWS

Literature reviews have great teaching value, but the focus of Ophthalmology is on "new" material. Reviewing the past literature tends not to add "new" information to the current literature. But, if you incorporate new knowledge into the review by aggregating past information to create new knowledge, such reviews are considered. For example, a metanalysis combines old data in a way that teaches new knowledge. Better literature reviews tend to be highly structured with inclusion and exclusion criteria for which papers will be included and they involve more than, e.g., "we searched PubMed on 'cataract'." There is excellent information on metanalyses and structured and methodical literature reviews available at the Cochrane Collaboration website (cochrane.org). In addition, the Journal will consider and may accept so called "evidence-based" reviews. There are detailed instructions in this Guide for "evidence based studies – additional guidelines."

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Taulbee P. Maryland Quality Project puts new focus on processes of care. Rep Med Guideline Outcomes Res. June 1994;10-1.

SUPPLEMENTS:

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LETTER:

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STUDY GROUPS:

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Crist WM, Garnsey L, Beltangady MS, the Intergroup Rhabdomyosarcoma Committee. Prognosis in children with rhabdomyosarcoma: a report of the intergroup rhabdomyosarcoma studies I and II. J Clin Oncol 1990;8:443-52.

NO AUTHORS LISTED OTHER THAN THE STUDY GROUP:

Fluorouracil Filtering Surgery Study Group. Fluorouracil filtering surgery study: one-year follow-up. Am J Ophthalmol 1990;109:613-6.

BOOKS

BOOK:

Miller NR. Walsh and Hoyts Clinical Neuro-Ophthalmology. Baltimore, MD: Williams & Wilkins; 1991:xx-xx. (include specific inclusive pagination for material being referenced)

ARTICLE OR CHAPTER IN BOOK:

Hollis S, Rozakis GW. Complications, special cases and management. In: Rozakis GW, ed. Refractive Lamellar Keratoplasty. Thorofare, NJ: SLACK Inc.; 1994:111-22.

EDITED BOOK:

Letheridge S, Cannon CR, eds. Bilingual Education: Teaching English as a Second Language. Vol. 1. 3rd ed. New York: Praeger; 1980:xx-xx.

Article in edited book, reprint from another source:

Sluzki CE, Beavin J. Symmetry and complementarity. In: Watzlawick P, Weakland JH, eds. The Interactional View. New York: Norton; 1977:711-30. Reprint from: Acta Psiquiatr Psicol Am Lat 1965;11:321-30.

Proceedings published as a book:

Chaddock TE. Gastric emptying of a nutritionally balanced liquid diet. In: Daniel EE, ed. Proceedings of the Fourth International Symposium on Gastrointestinal Motility. Ames, IA: Mitchell Press; 1974:83-92.

Book without authors or editors:

College Bound Seniors. Princeton, NJ: College Board Publications; 1979:xx-xx.

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Wilson JG, Fraser FC, eds. Handbook of Teratology. Vol. 1-4. New York: Plenum Press; 1977-88.

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GOVERNMENT DOCUMENTS

Klein R, Klein BE. Beaver Dam Eye Study. Manual of Operations (Revised). Report for 16 Jun 87 - 31 May 92. Springfield, VA: US Dept of Commerce; 1991:xx-xx. NTIS Publication PB91-149823.

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Determining the prevalence of a symptom, sign, or disease in a group of individuals or examining associations between factors at one point in time?	CROSS-SECTIONAL STUDY	Clinic-based, hospital-based, community-based, population-based
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Each table must be titled and numbered consecutively as mentioned in the text. Each column must have a heading. Terminology used within tables should be able to stand independently, without the requirement of explanation from the text. Use abbreviations and acronyms only if imperative for reasonable table formatting. **All** abbreviations and acronyms must be explained in the table legend. Please do not type more than one table per page. References for tables should be included in the main reference list. If unpublished data or abstract need to referenced in a table, place it as a footnote.

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In 2010, the Journal launched an exciting new section to bring information about translational advances that are on the cusp of widespread clinical application to the readers This is primarily a “by invitation only” submission type, however if you have suggestions for topics, please contact Jayakrishna Ambati (jamba2@email.uky.edu), the Editor for this section. Manuscripts should discuss important current preclinical topics of direct relevance to clinical ophthalmologists. The goal is to provide authoritative and cutting edge reviews of topical state-of-the-art basic research that is expected to have broad clinical impact in the next few years. For example, in the years prior to the FDA approval of anti-VEGF drugs to treat neovascular age related macular degeneration, an article in this section might have summarized the relevant basic research that supported Phase I human studies for anti-VEGF drugs that are now widely used in the clinic. Manuscripts should be broadly accessible as the intended audience includes ophthalmologists with focus mainly, and in some cases solely, on clinical practice. Please avoid jargon and do not assume that laboratory techniques will be understood by all readers.

Format is as follows:

Abstract: An unstructured abstract of no more than 250 words should be included.

Text: The text should be in the range of not more than 20 typed, double spaced, line numbered manuscript pages with six tables/figures maximum. Figures and Tables should be in files separate from the manuscript and meet the same size and quality criteria as regular manuscripts. The manuscript file includes the cover page, abstract, text and references.

Structure of text: Structure for the actual text should be in three sections. Beginning with a section called Background**/Introduction**, where the problem being addressed by the technology is outlined, and then a free form section(s) on the **Data**, followed by a final section called Clinical **or Translational Implications**. References should not be encyclopedic (30 maximum) but should focus on key manuscripts and those of direct clinical relevance.

Every author must sign a copyright form(s) as well as conflict of interest form(s) which should be included with the uploaded files preferably at initial submission but no later than first revision. Every author should also complete an Authorship Criteria Form and submit it to the corresponding author. These forms should not be uploaded unless requested by the Editor.

Like all submissions, whether solicited or not, Translational Science Reviews shall undergo rigorous peer review and acceptance is not guaranteed. Ideally, we would like to have your manuscript within 3 months of invitation.

TYPES OF SUBMISSIONS

Choose from one of the following types for your submission:

Manuscript - general manuscripts which don't fall into any of the following categories.

AAO Meeting Paper – manuscripts written that have or will be presented at an American Academy of Ophthalmology Annual Meeting as poster or presentation. Ophthalmology always has right of first refusal on these manuscripts.

Evidence Based Study – manuscripts submitted which are the results of evidence based studies (meta analyses or systematic reviews) and have different requirements than those of general manuscripts (see Additional Guidelines for Evidence-Based Manuscripts.)

Editorials – papers written at the request of the Editor on specific topics.

Correspondence – commentaries and critiques by readers of various articles, often with responses from authors.

Manuscript to Report (MS to RPT): By invitation of the Editorial Board, a Manuscript re-submitted as a Report.

Translational Science Reviews – submissions about translational advances that are on the cusp of widespread clinical application to the readers; this is by invitation or prior topic approval. (see Translational Science Reviews)

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2. Click on "change details" (top of screen) and review your contact information. It is generally easier to use the full page view for this listing.

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Here you can update ALL your most current contact information as well as your "Personal Classifications" which are your areas of expertise. If you scroll down this page and click on the personal classifications link, you can mark your correct areas of expertise so we can more accurately direct manuscripts to you for review. **BE SURE TO HIT SUBMIT** before closing window so changes made are saved.

Taking the time to provide both of these updates will have significant repercussions because you can help us:

a) stream **line reviewer queries** by sending you only relevant requests to review which likewise **reduces the turnaround time** and **gets timely decisions** back to authors.

b) to **maintain non-biased, quality reviews** by knowing who is at which institution/organization (we avoid using reviewers from the author's institution/organization.)

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3. Change data as needed – Be sure to click "update" on the bottom of the page.

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5. Click on "register" (at top of screen) and fill in your first name, last name and e-mail address. If you are already in the system it will offer to send your username and password to your e-mail address. When you receive it, follow the directions #2 and #3 above.

6. If you have moved within the past year, we suggest you also try putting in your previous e-mail address so that you do not generate duplicate registrations within the system. If your old e-mail is in the system (and it is still accessible to you) click on "register" and follow the steps in #5 above.

IF YOU HAVE NEVER REGISTERED BEFORE IN ANY ROLE**:**

7 If you have never been in the system in any role (author or reviewer) go to the home page at click on register and follow the steps provided at the website.

If for any reason you cannot access your information or are not sure if you are in the system, please send an e-mail to with your first name, last name, city and state or city and country as appropriate and your new -email address. The Editorial Office will update your information and then send you an e-mail with your user name and password so you can log in and access your contact data and personal classifications and update as needed.

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If you opt for to submit a video as an online supplement, add a reference to it in parenthesis at an appropriate place within the text of the manuscript. Also, add a statement to the title page that should read similar to: "This article contains a video as additional online-only material. The following should appear online-only: Clip 1, Clip 2 and Clip 3" Obviously, the materials can not appear in the printed version but will be archived with the online version on the publisher's website http://www.ophsource.com/periodicals/ophtha and accessible through Medline and other online databases.

We do not have video editing software, but a website with useful tips on reducing file size can be found at http://www.deskshare.com/Resources/articles/dmc_ReduceFileSize.aspx

1. Maximum: 8 minutes total. We recommend several smaller clips that total no more than 8 minutes.
2. Size: no larger than 10 MB for each file
3. File extension types: .MPG (MPEG-1 or 2), .AVI, .MOV
4. Audio commentary, describing what is being shown is highly recommended. Do not use copyrighted music.
5. Within the submission, there must be a brief legend describing the contents of the video and the indicating the viewing order.
6. Video files should be loaded with your submission into the Electronic Submission System. File names should correspond to video legends.
7. On the title page add: "This manuscript contains (number) video clips.
8. Load them into your submission using the "multimedia" file type

Updated March 26, 2013

Anexo 3 – Imagens da metodologia experimental que não fazem parte do artigo a ser enviado para publicação

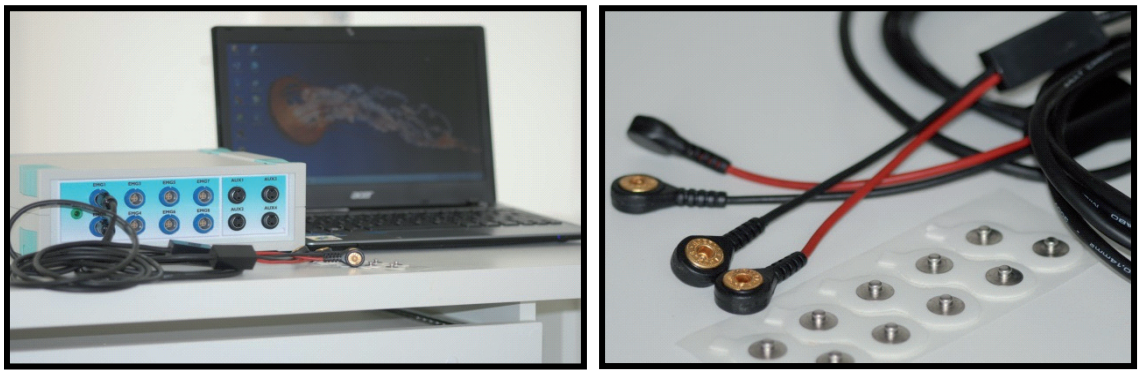

Figura 9: Eletromiógrafo Myosystem BR1 conectado ao computador (*Notebook*), com os eletrodos bipolares de superfície.

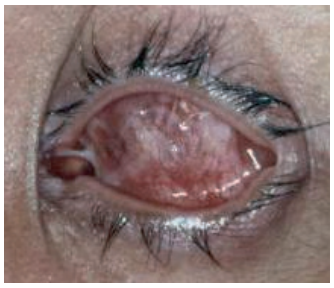

Figura 10. Cavidade anoftálmica do paciente

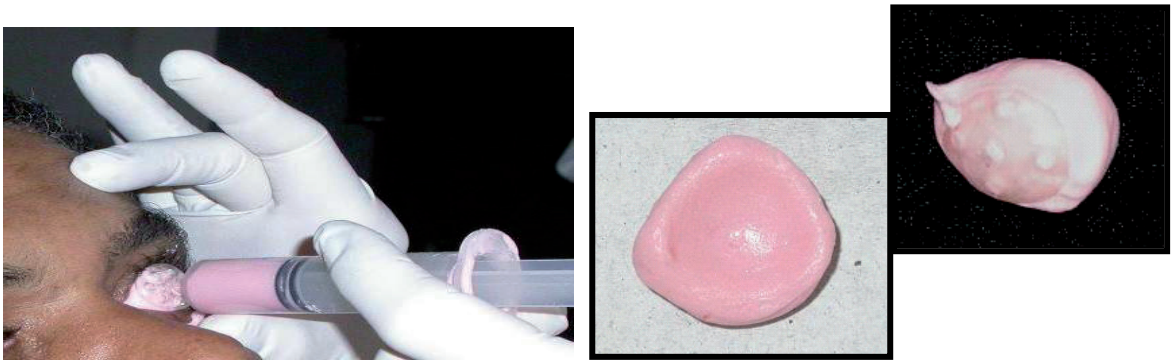

Figura 11. Moldagem da cavidade anoftálmica.

Figura 12. Prensagem da resina acrílica para obtenção da esclera artificial

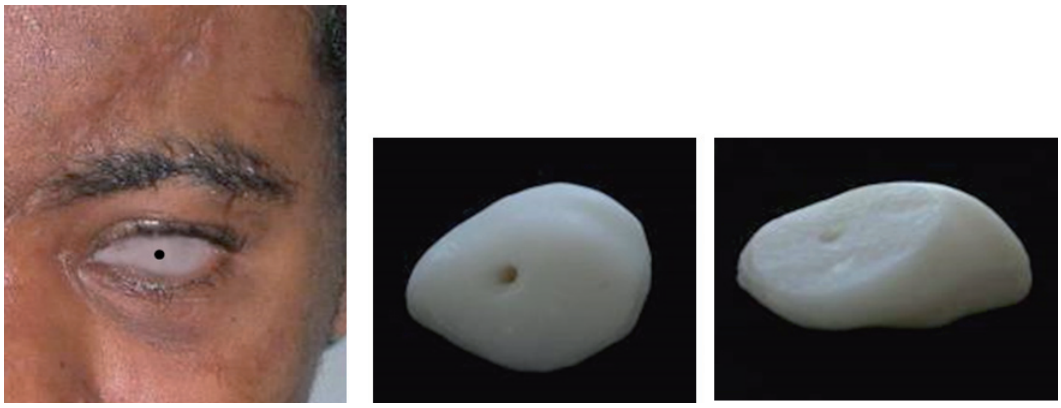

Figura 13. Prova da esclera artificial, demarcação da pupila e confecção do platô.

Figura 14. Materiais utilizados na confecção da íris artificial.

Figura 15. Caracterização da esclera artificial.

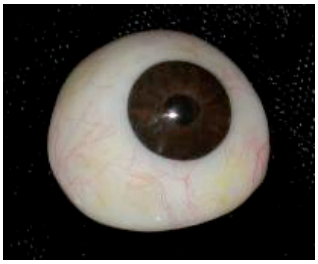

Figura 16. Prótese ocular finalizada.

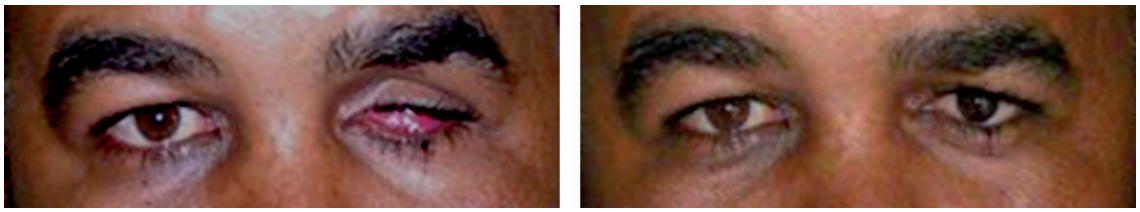

Figura 17. Paciente com e sem a prótese ocular.

Anexo 4 – General Linear Model

General Linear Model

Notes

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	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
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Within-Subjects Factors

Measure:MEASURE_1

rest	Dependent Variable
1	rep
2	rep7
3	rep14
4	rep30
5	rep60

Between-Subjects Factors

		N
3=superior e 4=inferior	3.00	12
	4.00	12

Descriptive Statistics

	3=superior e 4=inferior	Mean	Std. Deviation	N
Repouso sem prótese	3.00	8.4183	2.12225	12
	4.00	5.9333	1.61627	12
	Total	7.1758	2.23926	24
Repouso 7 dias	3.00	10.0332	2.13391	12
	4.00	7.8152	2.30022	12
	Total	8.9242	2.44777	24
Repouso 14 dias	3.00	10.6210	1.81167	12
	4.00	8.1601	2.03314	12
	Total	9.3906	2.26416	24
Repouso 30 dias	3.00	10.8169	1.88128	12
	4.00	8.1938	1.84322	12
	Total	9.5054	2.26108	24
Repouso 60 dias	3.00	10.8906	1.85295	12
	4.00	8.2182	1.95627	12
	Total	9.5544	2.30985	24

Multivariate Tests[b]

Effect		Value	F	Hypothesis df	Error df	Sig.
rest	Pillai's Trace	.814	20.822[a]	4.000	19.000	.000
	Wilks' Lambda	.186	20.822[a]	4.000	19.000	.000
	Hotelling's Trace	4.384	20.822[a]	4.000	19.000	.000
	Roy's Largest Root	4.384	20.822[a]	4.000	19.000	.000
rest * local	Pillai's Trace	.099	.525[a]	4.000	19.000	.719
	Wilks' Lambda	.901	.525[a]	4.000	19.000	.719
	Hotelling's Trace	.110	.525[a]	4.000	19.000	.719
	Roy's Largest Root	.110	.525[a]	4.000	19.000	.719

a. Exact statistic

b. Design: Intercept + local
Within Subjects Design: rest

Mauchly's Test of Sphericity[b]

Measure:MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[a]		
					Greenhouse-Geisser	Huynh-Feldt	Lower-bound
rest	.008	98.399	9	.000	.404	.452	.250

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

b. Design: Intercept + local
Within Subjects Design: rest

Tests of Within-Subjects Effects

Measure:MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
rest	Sphericity Assumed	96.200	4	24.050	53.809	.000
	Greenhouse-Geisser	96.200	1.618	59.474	53.809	.000
	Huynh-Feldt	96.200	1.806	53.253	53.809	.000
	Lower-bound	96.200	1.000	96.200	53.809	.000
rest * local	Sphericity Assumed	.755	4	.189	.422	.792
	Greenhouse-Geisser	.755	1.618	.467	.422	.616
	Huynh-Feldt	.755	1.806	.418	.422	.638
	Lower-bound	.755	1.000	.755	.422	.522
Error(rest)	Sphericity Assumed	39.331	88	.447		
	Greenhouse-Geisser	39.331	35.585	1.105		
	Huynh-Feldt	39.331	39.742	.990		
	Lower-bound	39.331	22.000	1.788		

Tests of Within-Subjects Contrasts

Measure:MEASURE_1

Source	rest	Type III Sum of Squares	df	Mean Square	F	Sig.
rest	Linear	68.396	1	68.396	84.293	.000
	Quadratic	24.111	1	24.111	42.332	.000
	Cubic	3.550	1	3.550	10.721	.003
	Order 4	.143	1	.143	1.883	.184
rest * local	Linear	.365	1	.365	.450	.509
	Quadratic	.131	1	.131	.229	.637
	Cubic	.233	1	.233	.703	.411
	Order 4	.027	1	.027	.353	.559
Error(rest)	Linear	17.851	22	.811		
	Quadratic	12.531	22	.570		
	Cubic	7.285	22	.331		
	Order 4	1.665	22	.076		

Tests of Between-Subjects Effects

Measure:MEASURE_1

Transformed Variable:Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	9526.723	1	9526.723	544.414	.000
local	186.279	1	186.279	10.645	.004
Error	384.979	22	17.499		

Estimated Marginal Means

1. rest

Measure:MEASURE_1

rest	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	7.176	.385	6.377	7.974
2	8.924	.453	7.985	9.863
3	9.391	.393	8.575	10.206
4	9.505	.380	8.717	10.294
5	9.554	.389	8.748	10.361

2. 3=superior e 4=inferior

Measure:MEASURE_1

3=superior e 4=inferior	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
3.00	10.156	.540	9.036	11.276
4.00	7.664	.540	6.544	8.784

3. 3=superior e 4=inferior * rest

Measure:MEASURE_1

3=superior e 4=inferior	rest	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
3.00	1	8.418	.545	7.289	9.548
	2	10.033	.640	8.705	11.361
	3	10.621	.556	9.468	11.774
	4	10.817	.538	9.702	11.932
	5	10.891	.550	9.750	12.031
4.00	1	5.933	.545	4.804	7.063
	2	7.815	.640	6.487	9.143
	3	8.160	.556	7.007	9.313
	4	8.194	.538	7.079	9.309
	5	8.218	.550	7.078	9.359

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T-Test

Notes

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Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
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Group Statistics

	3=superior e 4=inferior	N	Mean	Std. Deviation	Std. Error Mean
Repouso sem prótese	3.00	12	8.4183	2.12225	.61264
	4.00	12	5.9333	1.61627	.46658
Repouso 7 dias	3.00	12	10.0332	2.13391	.61601
	4.00	12	7.8152	2.30022	.66401
Repouso 14 dias	3.00	12	10.6210	1.81167	.52298
	4.00	12	8.1601	2.03314	.58692
Repouso 30 dias	3.00	12	10.8169	1.88128	.54308
	4.00	12	8.1938	1.84322	.53209
Repouso 60 dias	3.00	12	10.8906	1.85295	.53490
	4.00	12	8.2182	1.95627	.56473

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Repouso sem prótese	Equal variances assumed	.138	.714	3.227	22	.004	2.48495	.77008	.88791	4.08200
	Equal variances not assumed			3.227	20.548	.004	2.48495	.77008	.88134	4.08857
Repouso 7 dias	Equal variances assumed	1.093	.307	2.449	22	.023	2.21796	.90575	.33956	4.09637
	Equal variances not assumed			2.449	21.877	.023	2.21796	.90575	.33895	4.09698
Repouso 14 dias	Equal variances assumed	1.702	.206	3.130	22	.005	2.46083	.78612	.83052	4.09114
	Equal variances not assumed			3.130	21.714	.005	2.46083	.78612	.82928	4.09239
Repouso 30 dias	Equal variances assumed	.257	.617	3.450	22	.002	2.62311	.76030	1.04635	4.19987
	Equal variances not assumed			3.450	21.991	.002	2.62311	.76030	1.04631	4.19991
Repouso 60 dias	Equal variances assumed	.761	.393	3.436	22	.002	2.67238	.77784	1.05924	4.28552
	Equal variances not assumed			3.436	21.936	.002	2.67238	.77784	1.05897	4.28580

General Linear Model

Notes

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	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
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Within-Subjects Factors

Measure:MEASURE_1

abertura	Dependent Variable
1	abert
2	abert7
3	abert14
4	abert30
5	abert60

Between-Subjects Factors

		N
3=superior e 4=inferior	3.00	12
	4.00	12

Descriptive Statistics

	3=superior e 4=inferior	Mean	Std. Deviation	N
Abertura sem prótese	3.00	9.2732	1.93417	12
	4.00	7.8939	2.01904	12
	Total	8.5835	2.05794	24
Abertura 7 dias	3.00	12.1828	2.14781	12
	4.00	10.3895	2.15006	12
	Total	11.2861	2.29263	24
Abertura 14 dias	3.00	12.6868	1.94416	12
	4.00	10.7670	1.98634	12
	Total	11.7269	2.15782	24
Abertura 30 dias	3.00	12.8930	1.88066	12
	4.00	10.8279	1.97694	12
	Total	11.8605	2.16176	24
Abertura 60 dias	3.00	12.8860	1.97532	12
	4.00	10.9391	2.04365	12
	Total	11.9126	2.20283	24

Multivariate Tests[b]

Effect		Value	F	Hypothesis df	Error df	Sig.
abertura	Pillai's Trace	.874	32.987[a]	4.000	19.000	.000
	Wilks' Lambda	.126	32.987[a]	4.000	19.000	.000
	Hotelling's Trace	6.945	32.987[a]	4.000	19.000	.000
	Roy's Largest Root	6.945	32.987[a]	4.000	19.000	.000
abertura * local	Pillai's Trace	.108	.573[a]	4.000	19.000	.686
	Wilks' Lambda	.892	.573[a]	4.000	19.000	.686
	Hotelling's Trace	.121	.573[a]	4.000	19.000	.686
	Roy's Largest Root	.121	.573[a]	4.000	19.000	.686

a. Exact statistic

b. Design: Intercept + local
Within Subjects Design: abertura

Mauchly's Test of Sphericity[b]

Measure:MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[a]		
					Greenhouse-Geisser	Huynh-Feldt	Lower-bound
abertura	.012	90.547	9	.000	.383	.425	.250

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

b. Design: Intercept + local
Within Subjects Design: abertura

Tests of Within-Subjects Effects

Measure:MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
abertura	Sphericity Assumed	191.889	4	47.972	103.284	.000
	Greenhouse-Geisser	191.889	1.532	125.264	103.284	.000
	Huynh-Feldt	191.889	1.699	112.975	103.284	.000
	Lower-bound	191.889	1.000	191.889	103.284	.000
abertura * local	Sphericity Assumed	1.686	4	.422	.908	.463
	Greenhouse-Geisser	1.686	1.532	1.101	.908	.389
	Huynh-Feldt	1.686	1.699	.993	.908	.398
	Lower-bound	1.686	1.000	1.686	.908	.351
Error(abertura)	Sphericity Assumed	40.873	88	.464		
	Greenhouse-Geisser	40.873	33.701	1.213		
	Huynh-Feldt	40.873	37.367	1.094		
	Lower-bound	40.873	22.000	1.858		

Tests of Within-Subjects Contrasts

Measure:MEASURE_1

Source	abertura	Type III Sum of Squares	df	Mean Square	F	Sig.
abertura	Linear	125.538	1	125.538	117.382	.000
	Quadratic	53.916	1	53.916	115.836	.000
	Cubic	11.410	1	11.410	50.805	.000
	Order 4	1.025	1	1.025	10.422	.004
abertura * local	Linear	1.188	1	1.188	1.111	.303
	Quadratic	.469	1	.469	1.007	.327
	Cubic	.000	1	.000	.002	.969
	Order 4	.030	1	.030	.302	.588
Error(abertura)	Linear	23.529	22	1.069		
	Quadratic	10.240	22	.465		
	Cubic	4.941	22	.225		
	Order 4	2.164	22	.098		

Tests of Between-Subjects Effects

Measure:MEASURE_1
Transformed Variable:Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	14715.791	1	14715.791	804.438	.000
local	99.469	1	99.469	5.437	.029
Error	402.452	22	18.293		

Estimated Marginal Means

1. 3=superior e 4=inferior

Measure:MEASURE_1

3=superior e 4=inferior	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
3.00	11.984	.552	10.839	13.129
4.00	10.163	.552	9.018	11.309

2. abertura

Measure:MEASURE_1

abertura	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	8.584	.404	7.747	9.420
2	11.286	.439	10.376	12.196
3	11.727	.401	10.895	12.559
4	11.860	.394	11.044	12.677
5	11.913	.410	11.062	12.763

3. 3=superior e 4=inferior * abertura

Measure:MEASURE_1

3=superior e 4=inferior	abertura	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
3.00	1	9.273	.571	8.090	10.457
	2	12.183	.620	10.896	13.469
	3	12.687	.567	11.510	13.863
	4	12.893	.557	11.738	14.048
	5	12.886	.580	11.683	14.089
4.00	1	7.894	.571	6.710	9.078
	2	10.389	.620	9.103	11.676
	3	10.767	.567	9.590	11.944
	4	10.828	.557	9.673	11.983
	5	10.939	.580	9.736	12.142

```
T-TEST GROUPS=local(3 4)  /MISSING=ANALYSIS  /VARIABLES=abert abert7
abert14 abert30 abert60  /CRITERIA=CI(.95).
```

T-Test

Notes

Output Created		26-Jun-2012 20:41:01
Comments		
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	Active Dataset	DataSet1
	Filter	grupo=2 (FILTER)
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	Split File	<none>
	N of Rows in Working Data File	24
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on the cases with no missing or out-of-range data for any variable in the analysis.
Syntax		T-TEST GROUPS=local(3 4) /MISSING=ANALYSIS /VARIABLES=abert abert7 abert14 abert30 abert60 /CRITERIA=CI(.95).
Resources	Processor Time	0:00:00.015
	Elapsed Time	0:00:00.015

[DataSet1] C:\Users\Simone\Desktop\DAni junho 2012 dados divididos E NORMALIZADOS.sav

Group Statistics

	3=superior e 4=inferior	N	Mean	Std. Deviation	Std. Error Mean
Abertura sem prótese	3.00	12	9.2732	1.93417	.55835
	4.00	12	7.8939	2.01904	.58285
Abertura 7 dias	3.00	12	12.1828	2.14781	.62002
	4.00	12	10.3895	2.15006	.62067
Abertura 14 dias	3.00	12	12.6868	1.94416	.56123
	4.00	12	10.7670	1.98634	.57341
Abertura 30 dias	3.00	12	12.8930	1.88066	.54290
	4.00	12	10.8279	1.97694	.57069
Abertura 60 dias	3.00	12	12.8860	1.97532	.57023
	4.00	12	10.9391	2.04365	.58995

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Abertura sem prótese	Equal variances assumed	.132	.720	1.709	22	.102	1.37929	.80713	-.29460	3.05317
	Equal variances not assumed			1.709	21.960	.102	1.37929	.80713	-.29478	3.05335
Abertura 7 dias	Equal variances assumed	.546	.468	2.044	22	.053	1.79336	.87730	-.02605	3.61277
	Equal variances not assumed			2.044	22.000	.053	1.79336	.87730	-.02605	3.61277
Abertura 14 dias	Equal variances assumed	.362	.553	2.393	22	.026	1.91981	.80236	.25582	3.58379
	Equal variances not assumed			2.393	21.990	.026	1.91981	.80236	.25578	3.58384
Abertura 30 dias	Equal variances assumed	.487	.493	2.622	22	.016	2.06506	.78767	.43152	3.69859
	Equal variances not assumed			2.622	21.945	.016	2.06506	.78767	.43129	3.69883
Abertura 60 dias	Equal variances assumed	.455	.507	2.373	22	.027	1.94694	.82049	.24535	3.64853
	Equal variances not assumed			2.373	21.975	.027	1.94694	.82049	.24524	3.64865

GLM piscar piscar7 piscar14 piscar30 piscar60 BY local /WSFACTOR=pisca 5 Polynomial /METHOD=SSTYPE(3) /EMMEANS=TABLES(local) /EMMEANS=TABLES(pisca) /EMMEANS=TABLES(local*pisca) /PRINT=DESCRIPTIVE /CRITERIA=ALPHA(.05) /WSDESIGN=pisca /DESIGN=local.

General Linear Model

Notes

Output Created		26-Jun-2012 20:42:42
Comments		
Input	Data	C:\Users\Simone\Desktop\DAni junho 2012 dados divididos E NORMALIZADOS.sav
	Active Dataset	DataSet1
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	Split File	<none>
	N of Rows in Working Data File	24
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax		GLM piscar piscar7 piscar14 piscar30 piscar60 BY local /WSFACTOR=pisca 5 Polynomial /METHOD=SSTYPE(3) /EMMEANS=TABLES(local) /EMMEANS=TABLES(pisca) /EMMEANS=TABLES(local*pisca) /PRINT=DESCRIPTIVE /CRITERIA=ALPHA(.05) /WSDESIGN=pisca /DESIGN=local.
Resources	Processor Time	0:00:00.031
	Elapsed Time	0:00:00.031

[DataSet1] C:\Users\Simone\Desktop\DAni junho 2012 dados divididos E NORMALIZADOS.sav

Within-Subjects Factors

Measure:MEASURE_1

pisca	Dependent Variable
1	piscar
2	piscar7
3	piscar14
4	piscar30
5	piscar60

Between-Subjects Factors

		N
3=superior e 4=inferior	3.00	12
	4.00	12

Descriptive Statistics

	3=superior e 4=inferior	Mean	Std. Deviation	N
Piscar sem prótese	3.00	13.3180	2.92000	12
	4.00	10.8759	2.96289	12
	Total	12.0970	3.13562	24
Piscar 7 dias	3.00	22.7383	3.51291	12
	4.00	15.8399	3.80767	12
	Total	19.2891	5.02494	24
Piscar 14 dias	3.00	24.9278	2.88747	12
	4.00	17.9857	4.31691	12
	Total	21.4567	5.04703	24
Piscar 30 dias	3.00	25.7676	3.40783	12
	4.00	18.4943	4.62894	12
	Total	22.1310	5.44078	24
Piscar 60 dias	3.00	25.8148	3.48715	12
	4.00	18.7789	4.93810	12
	Total	22.2968	5.51291	24

Multivariate Tests[b]

Effect		Value	F	Hypothesis df	Error df	Sig.
pisca	Pillai's Trace	.934	66.693[a]	4.000	19.000	.000
	Wilks' Lambda	.066	66.693[a]	4.000	19.000	.000
	Hotelling's Trace	14.041	66.693[a]	4.000	19.000	.000
	Roy's Largest Root	14.041	66.693[a]	4.000	19.000	.000
pisca * local	Pillai's Trace	.547	5.742[a]	4.000	19.000	.003
	Wilks' Lambda	.453	5.742[a]	4.000	19.000	.003
	Hotelling's Trace	1.209	5.742[a]	4.000	19.000	.003
	Roy's Largest Root	1.209	5.742[a]	4.000	19.000	.003

a. Exact statistic

b. Design: Intercept + local
Within Subjects Design: pisca

Mauchly's Test of Sphericity[b]

Measure:MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[a]		
					Greenhouse-Geisser	Huynh-Feldt	Lower-bound
pisca	.007	101.442	9	.000	.368	.406	.250

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

b. Design: Intercept + local
Within Subjects Design: pisca

Tests of Within-Subjects Effects

Measure:MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
pisca	Sphericity Assumed	1761.890	4	440.472	112.240	.000
	Greenhouse-Geisser	1761.890	1.472	1197.163	112.240	.000
	Huynh-Feldt	1761.890	1.623	1085.448	112.240	.000
	Lower-bound	1761.890	1.000	1761.890	112.240	.000
pisca * local	Sphericity Assumed	101.866	4	25.467	6.489	.000
	Greenhouse-Geisser	101.866	1.472	69.216	6.489	.008
	Huynh-Feldt	101.866	1.623	62.757	6.489	.006
	Lower-bound	101.866	1.000	101.866	6.489	.018
Error(pisca)	Sphericity Assumed	345.345	88	3.924		
	Greenhouse-Geisser	345.345	32.378	10.666		
	Huynh-Feldt	345.345	35.710	9.671		
	Lower-bound	345.345	22.000	15.698		

Tests of Within-Subjects Contrasts

Measure:MEASURE_1

Source	pisca	Type III Sum of Squares	df	Mean Square	F	Sig.
pisca	Linear	1296.416	1	1296.416	112.557	.000
	Quadratic	414.302	1	414.302	269.674	.000
	Cubic	48.950	1	48.950	26.740	.000
	Order 4	2.223	1	2.223	2.735	.112
pisca * local	Linear	54.866	1	54.866	4.764	.040
	Quadratic	35.489	1	35.489	23.100	.000
	Cubic	8.866	1	8.866	4.843	.039
	Order 4	2.645	1	2.645	3.255	.085
Error(pisca)	Linear	253.393	22	11.518		
	Quadratic	33.799	22	1.536		
	Cubic	40.273	22	1.831		
	Order 4	17.880	22	.813		

Tests of Between-Subjects Effects

Measure:MEASURE_1

Transformed Variable:Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	45415.556	1	45415.556	830.967	.000
local	1123.028	1	1123.028	20.548	.000
Error	1202.385	22	54.654		

Estimated Marginal Means

1. 3=superior e 4=inferior

Measure:MEASURE_1

3=superior e 4=inferior	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
3.00	22.513	.954	20.534	24.493
4.00	16.395	.954	14.416	18.374

2. pisca

Measure:MEASURE_1

pisca	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	12.097	.600	10.852	13.342
2	19.289	.748	17.738	20.840
3	21.457	.750	19.902	23.011
4	22.131	.830	20.410	23.852
5	22.297	.873	20.487	24.106

3. 3=superior e 4=inferior * pisca

Measure:MEASURE_1

3=superior e 4=inferior	pisca	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
3.00	1	13.318	.849	11.557	15.079
	2	22.738	1.057	20.545	24.931
	3	24.928	1.060	22.729	27.126
	4	25.768	1.173	23.334	28.201
	5	25.815	1.234	23.256	28.374
4.00	1	10.876	.849	9.115	12.637
	2	15.840	1.057	13.647	18.033
	3	17.986	1.060	15.787	20.184
	4	18.494	1.173	16.061	20.928
	5	18.779	1.234	16.220	21.338

T-TEST GROUPS=local(3 4) /MISSING=ANALYSIS /VARIABLES=piscar piscar7 piscar14 piscar30 piscar60 /CRITERIA=CI(.95).

T-Test

Notes

Output Created		26-Jun-2012 20:44:01
Comments		
Input	Data	C:\Users\Simone\Desktop\DAni junho 2012 dados divididos E NORMALIZADOS.sav
	Active Dataset	DataSet1
	Filter	grupo=2 (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	24
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on the cases with no missing or out-of-range data for any variable in the analysis.
Syntax		T-TEST GROUPS=local(3 4) /MISSING=ANALYSIS /VARIABLES=piscar piscar7 piscar14 piscar30 piscar60 /CRITERIA=CI(.95).
Resources	Processor Time	0:00:00.000
	Elapsed Time	0:00:00.016

[DataSet1] C:\Users\Simone\Desktop\DAni junho 2012 dados divididos E NORMALIZADOS.sav

Group Statistics

	3=superior e 4=inferior	N	Mean	Std. Deviation	Std. Error Mean
Piscar sem prótese	3.00	12	13.3180	2.92000	.84293
	4.00	12	10.8759	2.96289	.85531
Piscar 7 dias	3.00	12	22.7383	3.51291	1.01409
	4.00	12	15.8399	3.80767	1.09918
Piscar 14 dias	3.00	12	24.9278	2.88747	.83354
	4.00	12	17.9857	4.31691	1.24619
Piscar 30 dias	3.00	12	25.7676	3.40783	.98376
	4.00	12	18.4943	4.62894	1.33626
Piscar 60 dias	3.00	12	25.8148	3.48715	1.00665
	4.00	12	18.7789	4.93810	1.42551

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Piscar sem prótese	Equal variances assumed	.037	.848	2.034	22	.054	2.44209	1.20087	-.04836	4.93255
	Equal variances not assumed			2.034	21.995	.054	2.44209	1.20087	-.04840	4.93258
Piscar 7 dias	Equal variances assumed	.030	.865	4.613	22	.000	6.89835	1.49552	3.79683	9.99986
	Equal variances not assumed			4.613	21.859	.000	6.89835	1.49552	3.79567	10.00102
Piscar 14 dias	Equal variances assumed	2.008	.170	4.630	22	.000	6.94216	1.49926	3.83290	10.05143
	Equal variances not assumed			4.630	19.201	.000	6.94216	1.49926	3.80641	10.07792
Piscar 30 dias	Equal variances assumed	1.362	.256	4.383	22	.000	7.27327	1.65933	3.83203	10.71450
	Equal variances not assumed			4.383	20.216	.000	7.27327	1.65933	3.81434	10.73219
Piscar 60 dias	Equal variances assumed	1.475	.237	4.032	22	.001	7.03591	1.74511	3.41677	10.65506
	Equal variances not assumed			4.032	19.786	.001	7.03591	1.74511	3.39314	10.67868

GLM apert apert7 apert14 apert30 apert60 BY local /WSFACTOR=aperte 5 Polynomial /METHOD=SSTYPE(3) /EMMEANS=TABLES(local) /EMMEANS=TABLES(aperte) /EMMEANS=TABLES(local*aperte) /PRINT=DESCRIPTIVE /CRITERIA=ALPHA(.05) /WSDESIGN=aperte /DESIGN=local.

General Linear Model

Notes

Output Created		26-Jun-2012 20:45:22
Comments		
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	Active Dataset	DataSet1
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	Split File	<none>
	N of Rows in Working Data File	24
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax		GLM apert apert7 apert14 apert30 apert60 BY local /WSFACTOR=aperte 5 Polynomial /METHOD=SSTYPE(3) /EMMEANS=TABLES(local) /EMMEANS=TABLES(aperte) /EMMEANS=TABLES(local*aperte) /PRINT=DESCRIPTIVE /CRITERIA=ALPHA(.05) /WSDESIGN=aperte /DESIGN=local.
Resources	Processor Time	0:00:00.015
	Elapsed Time	0:00:00.017

[DataSet1] C:\Users\Simone\Desktop\DAni junho 2012 dados divididos E NORMALIZADOS.sav

Within-Subjects Factors

Measure:MEASURE_1

aperte	Dependent Variable
1	apert
2	apert7
3	apert14
4	apert30
5	apert60

Between-Subjects Factors

		N
3=superior e 4=inferior	3.00	12
	4.00	12

Descriptive Statistics

	3=superior e 4=inferior	Mean	Std. Deviation	N
Apertamento sem prótese	3.00	76.6783	17.01569	12
	4.00	65.8531	19.00743	12
	Total	71.2657	18.48865	24
Apertamento 7 dias	3.00	118.9703	14.93001	12
	4.00	108.8029	15.38026	12
	Total	113.8866	15.70695	24
Apertamento 14 dias	3.00	127.7775	22.43691	12
	4.00	113.9559	21.17068	12
	Total	120.8667	22.47120	24
Apertamento 30 dias	3.00	130.0492	23.01438	12
	4.00	116.6619	20.82156	12
	Total	123.3556	22.52582	24
Apertamento 60 dias	3.00	131.5035	21.04902	12
	4.00	117.1233	19.41186	12
	Total	124.3134	21.12020	24

Multivariate Tests[b]

Effect		Value	F	Hypothesis df	Error df	Sig.
aperte	Pillai's Trace	.898	41.947[a]	4.000	19.000	.000
	Wilks' Lambda	.102	41.947[a]	4.000	19.000	.000
	Hotelling's Trace	8.831	41.947[a]	4.000	19.000	.000
	Roy's Largest Root	8.831	41.947[a]	4.000	19.000	.000
aperte * local	Pillai's Trace	.162	.921[a]	4.000	19.000	.472
	Wilks' Lambda	.838	.921[a]	4.000	19.000	.472
	Hotelling's Trace	.194	.921[a]	4.000	19.000	.472
	Roy's Largest Root	.194	.921[a]	4.000	19.000	.472

a. Exact statistic

b. Design: Intercept + local
Within Subjects Design: aperte

Mauchly's Test of Sphericity[b]

Measure:MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[a]		
					Greenhouse-Geisser	Huynh-Feldt	Lower-bound
aperte	.003	121.342	9	.000	.378	.418	.250

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

b. Design: Intercept + local
Within Subjects Design: aperte

Tests of Within-Subjects Effects

Measure:MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
aperte	Sphericity Assumed	48337.445	4	12084.361	120.003	.000
	Greenhouse-Geisser	48337.445	1.512	31970.460	120.003	.000
	Huynh-Feldt	48337.445	1.673	28884.199	120.003	.000
	Lower-bound	48337.445	1.000	48337.445	120.003	.000
aperte * local	Sphericity Assumed	85.881	4	21.470	.213	.930
	Greenhouse-Geisser	85.881	1.512	56.802	.213	.747
	Huynh-Feldt	85.881	1.673	51.318	.213	.770
	Lower-bound	85.881	1.000	85.881	.213	.649
Error(aperte)	Sphericity Assumed	8861.651	88	100.701		
	Greenhouse-Geisser	8861.651	33.263	266.414		
	Huynh-Feldt	8861.651	36.817	240.696		
	Lower-bound	8861.651	22.000	402.802		

Tests of Within-Subjects Contrasts

Measure:MEASURE_1

Source	aperte	Type III Sum of Squares	df	Mean Square	F	Sig.
aperte	Linear	32052.252	1	32052.252	132.819	.000
	Quadratic	13220.396	1	13220.396	147.896	.000
	Cubic	2792.349	1	2792.349	57.942	.000
	Order 4	272.448	1	272.448	11.401	.003
aperte * local	Linear	64.023	1	64.023	.265	.612
	Quadratic	.265	1	.265	.003	.957
	Cubic	4.992	1	4.992	.104	.751
	Order 4	16.600	1	16.600	.695	.414
Error(aperte)	Linear	5309.113	22	241.323		
	Quadratic	1966.569	22	89.390		
	Cubic	1060.230	22	48.192		
	Order 4	525.738	22	23.897		

Tests of Between-Subjects Effects

Measure:MEASURE_1

Transformed Variable:Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	1471537.827	1	1471537.827	968.320	.000
local	4699.766	1	4699.766	3.093	.093
Error	33432.983	22	1519.681		

Estimated Marginal Means

1. 3=superior e 4=inferior

Measure:MEASURE_1

3=superior e 4=inferior	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
3.00	116.996	5.033	106.559	127.433
4.00	104.479	5.033	94.042	114.917

2. aperte

Measure:MEASURE_1

aperte	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	71.266	3.682	63.629	78.902
2	113.887	3.094	107.470	120.303
3	120.867	4.453	111.633	130.101
4	123.356	4.480	114.065	132.646
5	124.313	4.133	115.742	132.884

3. 3=superior e 4=inferior * aperte

Measure:MEASURE_1

3=superior e 4=inferior	aperte	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
3.00	1	76.678	5.207	65.879	87.478
	2	118.970	4.375	109.896	128.044
	3	127.778	6.297	114.719	140.836
	4	130.049	6.335	116.911	143.187
	5	131.504	5.845	119.382	143.625
4.00	1	65.853	5.207	55.054	76.653
	2	108.803	4.375	99.729	117.877
	3	113.956	6.297	100.897	127.015
	4	116.662	6.335	103.524	129.800
	5	117.123	5.845	105.002	129.245

T-TEST GROUPS=local(3 4) /MISSING=ANALYSIS /VARIABLES=apert apert7 apert14 apert30 apert60 /CRITERIA=CI(.95).

T-Test

Notes

Output Created		26-Jun-2012 20:46:13
Comments		
Input	Data	C:\Users\Simone\Desktop\DAni junho 2012 dados divididos E NORMALIZADOS.sav
	Active Dataset	DataSet1
	Filter	grupo=2 (FILTER)
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	24
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on the cases with no missing or out-of-range data for any variable in the analysis.
Syntax		T-TEST GROUPS=local(3 4) /MISSING=ANALYSIS /VARIABLES=apert apert7 apert14 apert30 apert60 /CRITERIA=CI(.95).
Resources	Processor Time	0:00:00.032
	Elapsed Time	0:00:00.030

[DataSet1] C:\Users\Simone\Desktop\DAni junho 2012 dados divididos E NORMALIZADOS.sav

Group Statistics

	3=superior e 4=inferior	N	Mean	Std. Deviation	Std. Error Mean
Apertamento sem prótese	3.00	12	76.6783	17.01569	4.91201
	4.00	12	65.8531	19.00743	5.48697
Apertamento 7 dias	3.00	12	118.9703	14.93001	4.30992
	4.00	12	108.8029	15.38026	4.43990
Apertamento 14 dias	3.00	12	127.7775	22.43691	6.47698
	4.00	12	113.9559	21.17068	6.11145
Apertamento 30 dias	3.00	12	130.0492	23.01438	6.64368
	4.00	12	116.6619	20.82156	6.01067
Apertamento 60 dias	3.00	12	131.5035	21.04902	6.07633
	4.00	12	117.1233	19.41186	5.60372

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Apertamento sem prótese	Equal variances assumed	.299	.590	1.470	22	.156	10.82523	7.36442	-4.44764	26.09811
	Equal variances not assumed			1.470	21.736	.156	10.82523	7.36442	-4.45841	26.10888
Apertamento 7 dias	Equal variances assumed	.265	.612	1.643	22	.115	10.16743	6.18774	-2.66515	23.00002
	Equal variances not assumed			1.643	21.981	.115	10.16743	6.18774	-2.66581	23.00068
Apertamento 14 dias	Equal variances assumed	.002	.961	1.552	22	.135	13.82160	8.90511	-4.64647	32.28968
	Equal variances not assumed			1.552	21.926	.135	13.82160	8.90511	-4.65008	32.29329
Apertamento 30 dias	Equal variances assumed	.047	.831	1.494	22	.149	13.38722	8.95916	-5.19294	31.96738
	Equal variances not assumed			1.494	21.783	.149	13.38722	8.95916	-5.20368	31.97812
Apertamento 60 dias	Equal variances assumed	.006	.938	1.740	22	.096	14.38023	8.26580	-2.76199	31.52245
	Equal variances not assumed			1.740	21.857	.096	14.38023	8.26580	-2.76848	31.52894

GET FILE='C:\Users\Simone\Desktop\DAni junho 2012 dados divididos E NORMALIZADOS.sav'. GLM NREP NREP7 NREP14 NREP30 NREP60 BY local /WSFACTOR=Nrepouso 5 Polynomial /METHOD=SSTYPE(3) /EMMEANS=TABLES(local) /EMMEANS=TABLES(Nrepouso) /EMMEANS=TABLES(local*Nrepouso) /PRINT=DESCRIPTIVE /CRITERIA=ALPHA(.05) /WSDESIGN=Nrepouso /DESIGN=local.

General Linear Model

Notes

Output Created		28-Jun-2012 21:11:26
Comments		
Input	Data	C:\Users\Simone\Desktop\DAni junho 2012 dados divididos E NORMALIZADOS.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	24
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax		GLM NREP NREP7 NREP14 NREP30 NREP60 BY local /WSFACTOR=Nrepouso 5 Polynomial /METHOD=SSTYPE(3) /EMMEANS=TABLES(local) /EMMEANS=TABLES(Nrepouso) /EMMEANS=TABLES(local*Nrepouso) /PRINT=DESCRIPTIVE /CRITERIA=ALPHA(.05) /WSDESIGN=Nrepouso /DESIGN=local.
Resources	Processor Time	0:00:00.047
	Elapsed Time	0:00:00.140

NORMALIZADOS

Within-Subjects Factors

Measure:MEASURE_1

Nrepouso	Dependent Variable
1	NREP
2	NREP7
3	NREP14
4	NREP30
5	NREP60

Between-Subjects Factors

		N
3=superior e 4=inferior	3.00	12
	4.00	12

Descriptive Statistics

	3=superior e 4=inferior	Mean	Std. Deviation	N
N Repouso sem prótese	3.00	.1143	.03733	12
	4.00	.0949	.03272	12
	Total	.1046	.03573	24
N Repouso 7 dias	3.00	.0852	.01962	12
	4.00	.0719	.01966	12
	Total	.0785	.02037	24
N Repouso 14 dias	3.00	.0851	.01843	12
	4.00	.0730	.01890	12
	Total	.0790	.01927	24
N Repouso 30 dias	3.00	.0851	.01843	12
	4.00	.0715	.01727	12
	Total	.0783	.01879	24
N Repouso 60 dias	3.00	.0844	.01761	12
	4.00	.0712	.01784	12
	Total	.0778	.01860	24

Multivariate Tests[b]

Effect		Value	F	Hypothesis df	Error df	Sig.
Nrepouso	Pillai's Trace	.496	4.671[a]	4.000	19.000	.009
	Wilks' Lambda	.504	4.671[a]	4.000	19.000	.009
	Hotelling's Trace	.983	4.671[a]	4.000	19.000	.009
	Roy's Largest Root	.983	4.671[a]	4.000	19.000	.009
Nrepouso * local	Pillai's Trace	.108	.577[a]	4.000	19.000	.683
	Wilks' Lambda	.892	.577[a]	4.000	19.000	.683
	Hotelling's Trace	.121	.577[a]	4.000	19.000	.683
	Roy's Largest Root	.121	.577[a]	4.000	19.000	.683

a. Exact statistic

b. Design: Intercept + local
Within Subjects Design: Nrepouso

Mauchly's Test of Sphericity[b]

Measure:MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[a]		
					Greenhouse-Geisser	Huynh-Feldt	Lower-bound
Nrepouso	.000	162.576	9	.000	.283	.301	.250

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

b. Design: Intercept + local
Within Subjects Design: Nrepouso

Tests of Within-Subjects Effects

Measure:MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
Nrepouso	Sphericity Assumed	.013	4	.003	19.300	.000
	Greenhouse-Geisser	.013	1.132	.012	19.300	.000
	Huynh-Feldt	.013	1.206	.011	19.300	.000
	Lower-bound	.013	1.000	.013	19.300	.000
Nrepouso * local	Sphericity Assumed	.000	4	5.038E-5	.295	.881
	Greenhouse-Geisser	.000	1.132	.000	.295	.620
	Huynh-Feldt	.000	1.206	.000	.295	.634
	Lower-bound	.000	1.000	.000	.295	.593
Error(Nrepouso)	Sphericity Assumed	.015	88	.000		
	Greenhouse-Geisser	.015	24.894	.001		
	Huynh-Feldt	.015	26.521	.001		
	Lower-bound	.015	22.000	.001		

Tests of Within-Subjects Contrasts

Measure:MEASURE_1

Source	Nrepouso	Type III Sum of Squares	df	Mean Square	F	Sig.
Nrepouso	Linear	.007	1	.007	18.755	.000
	Quadratic	.004	1	.004	20.199	.000
	Cubic	.002	1	.002	20.453	.000
	Order 4	.000	1	.000	15.086	.001
Nrepouso * local	Linear	8.838E-5	1	8.838E-5	.238	.630
	Quadratic	8.513E-5	1	8.513E-5	.403	.532
	Cubic	2.747E-5	1	2.747E-5	.336	.568
	Order 4	5.493E-7	1	5.493E-7	.028	.868
Error(Nrepouso)	Linear	.008	22	.000		
	Quadratic	.005	22	.000		
	Cubic	.002	22	8.174E-5		
	Order 4	.000	22	1.952E-5		

Tests of Between-Subjects Effects

Measure:MEASURE_1

Transformed Variable:Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	.840	1	.840	438.241	.000
local	.006	1	.006	3.197	.088
Error	.042	22	.002		

Estimated Marginal Means

1. 3=superior e 4=inferior

Measure:MEASURE_1

3=superior e 4=inferior	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
3.00	.091	.006	.079	.103
4.00	.076	.006	.065	.088

2. Nrepouso

Measure:MEASURE_1

Nrepouso	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
1	.105	.007	.090	.119
2	.079	.004	.070	.087
3	.079	.004	.071	.087
4	.078	.004	.071	.086
5	.078	.004	.070	.085

3. 3=superior e 4=inferior * Nrepouso

Measure:MEASURE_1

3=superior e 4=inferior	Nrepouso	Mean	Std. Error	95% Confidence Interval	
				Lower Bound	Upper Bound
3.00	1	.114	.010	.093	.135
	2	.085	.006	.073	.097
	3	.085	.005	.074	.096
	4	.085	.005	.074	.096
	5	.084	.005	.074	.095
4.00	1	.095	.010	.074	.116
	2	.072	.006	.060	.084
	3	.073	.005	.062	.084
	4	.072	.005	.061	.082
	5	.071	.005	.061	.082

T-TEST GROUPS=local(3 4) /MISSING=ANALYSIS /VARIABLES=NREP NREP7 NREP14 NREP30 NREP60 /CRITERIA=CI(.95).

T-Test

Notes

Output Created		28-Jun-2012 21:17:02
Comments		
Input	Data	C:\Users\Simone\Desktop\DAni junho 2012 dados divididos E NORMALIZADOS.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	24
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on the cases with no missing or out-of-range data for any variable in the analysis.
Syntax		T-TEST GROUPS=local(3 4) /MISSING=ANALYSIS /VARIABLES=NREP NREP7 NREP14 NREP30 NREP60 /CRITERIA=CI(.95).
Resources	Processor Time	0:00:00.016
	Elapsed Time	0:00:00.022

[DataSet1] C:\Users\Simone\Desktop\DAni junho 2012 dados divididos E NORMALIZADOS.sav

Group Statistics

	3=superior e 4=inferior	N	Mean	Std. Deviation	Std. Error Mean
N Repouso sem prótese	3.00	12	.1143	.03733	.01078
	4.00	12	.0949	.03272	.00945
N Repouso 7 dias	3.00	12	.0852	.01962	.00566
	4.00	12	.0719	.01966	.00567
N Repouso 14 dias	3.00	12	.0851	.01843	.00532
	4.00	12	.0730	.01890	.00546
N Repouso 30 dias	3.00	12	.0851	.01843	.00532
	4.00	12	.0715	.01727	.00498
N Repouso 60 dias	3.00	12	.0844	.01761	.00508
	4.00	12	.0712	.01784	.00515

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
N Repouso sem prótese	Equal variances assumed	.176	.679	1.352	22	.190	.01937	.01433	-.01035	.04909
	Equal variances not assumed			1.352	21.628	.190	.01937	.01433	-.01038	.04912
N Repouso 7 dias	Equal variances assumed	.003	.959	1.657	22	.112	.01329	.00802	-.00334	.02991
	Equal variances not assumed			1.657	22.000	.112	.01329	.00802	-.00334	.02991
N Repouso 14 dias	Equal variances assumed	.065	.802	1.582	22	.128	.01206	.00762	-.00375	.02786
	Equal variances not assumed			1.582	21.986	.128	.01206	.00762	-.00375	.02786
N Repouso 30 dias	Equal variances assumed	.682	.418	1.861	22	.076	.01357	.00729	-.00155	.02869
	Equal variances not assumed			1.861	21.907	.076	.01357	.00729	-.00156	.02869
N Repouso 60 dias	Equal variances assumed	.114	.738	1.819	22	.083	.01316	.00724	-.00185	.02817
	Equal variances not assumed			1.819	21.996	.083	.01316	.00724	-.00185	.02817

GLM NABERT NABERT7 NABERT14 NABERT30 NABERT60 BY local /WSFACTOR=NAbertura 5 Polynomial /METHOD=SSTYPE(3) /EMMEANS=TABLES(local) /PRINT=DESCRIPTIVE /CRITERIA=ALPHA(.05) /WSDESIGN=NAbertura /DESIGN=local.

General Linear Model

Notes

Output Created		28-Jun-2012 21:19:35
Comments		
Input	Data	C:\Users\Simone\Desktop\DAni junho 2012 dados divididos E NORMALIZADOS.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	24
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax		GLM NABERT NABERT7 NABERT14 NABERT30 NABERT60 BY local /WSFACTOR=NAbertura 5 Polynomial /METHOD=SSTYPE(3) /EMMEANS=TABLES(local) /PRINT=DESCRIPTIVE /CRITERIA=ALPHA(.05) /WSDESIGN=NAbertura /DESIGN=local.
Resources	Processor Time	0:00:00.016
	Elapsed Time	0:00:00.020

[DataSet1] C:\Users\Simone\Desktop\DAni junho 2012 dados divididos E NORMALIZADOS.sav

Within-Subjects Factors

Measure:MEASURE_1

NAbertura	Dependent Variable
1	NABERT
2	NABERT7
3	NABERT14
4	NABERT30
5	NABERT60

Between-Subjects Factors

		N
3=superior e 4=inferior	3.00	12
	4.00	12

Descriptive Statistics

	3=superior e 4=inferior	Mean	Std. Deviation	N
N Abertura sem prótese	3.00	.1251	.03264	12
	4.00	.1277	.04376	12
	Total	.1264	.03778	24
N Abertura 7 dias	3.00	.1031	.01814	12
	4.00	.0959	.01731	12
	Total	.0995	.01772	24
N Abertura 14 dias	3.00	.1014	.01949	12
	4.00	.0958	.01741	12
	Total	.0986	.01830	24
N Abertura 30 dias	3.00	.1014	.01951	12
	4.00	.0938	.01551	12
	Total	.0976	.01767	24
N Abertura 60 dias	3.00	.0999	.01959	12
	4.00	.0943	.01672	12
	Total	.0971	.01804	24

Multivariate Tests[b]

Effect		Value	F	Hypothesis df	Error df	Sig.
NAbertura	Pillai's Trace	.580	6.562[a]	4.000	19.000	.002
	Wilks' Lambda	.420	6.562[a]	4.000	19.000	.002
	Hotelling's Trace	1.382	6.562[a]	4.000	19.000	.002
	Roy's Largest Root	1.382	6.562[a]	4.000	19.000	.002
NAbertura * local	Pillai's Trace	.128	.697[a]	4.000	19.000	.603
	Wilks' Lambda	.872	.697[a]	4.000	19.000	.603
	Hotelling's Trace	.147	.697[a]	4.000	19.000	.603
	Roy's Largest Root	.147	.697[a]	4.000	19.000	.603

a. Exact statistic

b. Design: Intercept + local
Within Subjects Design: NAbertura

Mauchly's Test of Sphericity[b]

Measure:MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[a]		
					Greenhouse-Geisser	Huynh-Feldt	Lower-bound
NAbertura	.001	146.440	9	.000	.286	.305	.250

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

b. Design: Intercept + local
Within Subjects Design: NAbertura

Tests of Within-Subjects Effects

Measure:MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
NAbertura	Sphericity Assumed	.015	4	.004	21.044	.000
	Greenhouse-Geisser	.015	1.145	.013	21.044	.000
	Huynh-Feldt	.015	1.222	.013	21.044	.000
	Lower-bound	.015	1.000	.015	21.044	.000
NAbertura * local	Sphericity Assumed	.000	4	.000	.574	.682
	Greenhouse-Geisser	.000	1.145	.000	.574	.478
	Huynh-Feldt	.000	1.222	.000	.574	.488
	Lower-bound	.000	1.000	.000	.574	.457
Error(NAbertura)	Sphericity Assumed	.016	88	.000		
	Greenhouse-Geisser	.016	25.188	.001		
	Huynh-Feldt	.016	26.877	.001		
	Lower-bound	.016	22.000	.001		

Tests of Within-Subjects Contrasts

Measure:MEASURE_1

Source	NAbertura	Type III Sum of Squares	df	Mean Square	F	Sig.
NAbertura	Linear	.009	1	.009	24.549	.000
	Quadratic	.005	1	.005	19.374	.000
	Cubic	.002	1	.002	16.374	.001
	Order 4	.000	1	.000	8.097	.009
NAbertura * local	Linear	.000	1	.000	.474	.498
	Quadratic	.000	1	.000	.702	.411
	Cubic	3.326E-5	1	3.326E-5	.348	.561
	Order 4	4.402E-5	1	4.402E-5	1.413	.247
Error(NAbertura)	Linear	.008	22	.000		
	Quadratic	.005	22	.000		
	Cubic	.002	22	9.545E-5		
	Order 4	.001	22	3.115E-5		

Tests of Between-Subjects Effects

Measure:MEASURE_1

Transformed Variable:Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	1.294	1	1.294	629.010	.000
local	.001	1	.001	.317	.579
Error	.045	22	.002		

Estimated Marginal Means

3=superior e 4=inferior

Measure:MEASURE_1

3=superior e 4=inferior	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
3.00	.106	.006	.094	.118
4.00	.102	.006	.089	.114

T-TEST GROUPS=local(3 4) /MISSING=ANALYSIS /VARIABLES=NABERT NABERT7 NABERT14 NABERT30 NABERT60 /CRITERIA=CI(.95).

T-Test

Notes

Output Created		28-Jun-2012 21:20:41
Comments		
Input	Data	C:\Users\Simone\Desktop\DAni junho 2012 dados divididos E NORMALIZADOS.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	24
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on the cases with no missing or out-of-range data for any variable in the analysis.
Syntax		T-TEST GROUPS=local(3 4) /MISSING=ANALYSIS /VARIABLES=NABERT NABERT7 NABERT14 NABERT30 NABERT60 /CRITERIA=CI(.95).
Resources	Processor Time	0:00:00.015
	Elapsed Time	0:00:00.016

[DataSet1] C:\Users\Simone\Desktop\DAni junho 2012 dados divididos E NORMALIZADOS.sav

Group Statistics

	3=superior e 4=inferior	N	Mean	Std. Deviation	Std. Error Mean
N Abertura sem prótese	3.00	12	.1251	.03264	.00942
	4.00	12	.1277	.04376	.01263
N Abertura 7 dias	3.00	12	.1031	.01814	.00524
	4.00	12	.0959	.01731	.00500
N Abertura 14 dias	3.00	12	.1014	.01949	.00563
	4.00	12	.0958	.01741	.00503
N Abertura 30 dias	3.00	12	.1014	.01951	.00563
	4.00	12	.0938	.01551	.00448
N Abertura 60 dias	3.00	12	.0999	.01959	.00565
	4.00	12	.0943	.01672	.00483

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
N Abertura sem prótese	Equal variances assumed	1.289	.269	-.168	22	.868	-.00264	.01576	-.03532	.03004
	Equal variances not assumed			-.168	20.348	.868	-.00264	.01576	-.03548	.03019
N Abertura 7 dias	Equal variances assumed	.296	.592	.994	22	.331	.00719	.00724	-.00782	.02220
	Equal variances not assumed			.994	21.952	.331	.00719	.00724	-.00782	.02220
N Abertura 14 dias	Equal variances assumed	.025	.876	.740	22	.467	.00558	.00754	-.01007	.02123
	Equal variances not assumed			.740	21.724	.467	.00558	.00754	-.01008	.02124
N Abertura 30 dias	Equal variances assumed	.288	.597	1.054	22	.303	.00758	.00720	-.00734	.02250
	Equal variances not assumed			1.054	20.933	.304	.00758	.00720	-.00739	.02255
N Abertura 60 dias	Equal variances assumed	.107	.746	.751	22	.460	.00559	.00743	-.00983	.02100
	Equal variances not assumed			.751	21.472	.461	.00559	.00743	-.00985	.02102

GLM NPISCAR NPISCAR7 NPISCAR14 NPISCAR30 NPISCAR60 BY local /WSFACTOR=NPisca 5 Polynomial /METHOD=SSTYPE(3) /EMMEANS=TABLES(local) /PRINT=DESCRIPTIVE /CRITERIA=ALPHA(.05) /WSDESIGN=NPisca /DESIGN=local.

General Linear Model

Notes

Output Created		28-Jun-2012 21:21:42
Comments		
Input	Data	C:\Users\Simone\Desktop\DAni junho 2012 dados divididos E NORMALIZADOS.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	24
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on all cases with valid data for all variables in the model.
Syntax		GLM NPISCAR NPISCAR7 NPISCAR14 NPISCAR30 NPISCAR60 BY local /WSFACTOR=NPisca 5 Polynomial /METHOD=SSTYPE(3) /EMMEANS=TABLES(local) /PRINT=DESCRIPTIVE /CRITERIA=ALPHA(.05) /WSDESIGN=NPisca /DESIGN=local.
Resources	Processor Time	0:00:00.015
	Elapsed Time	0:00:00.019

[DataSet1] C:\Users\Simone\Desktop\DAni junho 2012 dados divididos E NORMALIZADOS.sav

Within-Subjects Factors

Measure:MEASURE_1

NPisca	Dependent Variable
1	NPISCAR
2	NPISCAR7
3	NPISCAR14
4	NPISCAR30
5	NPISCAR60

Between-Subjects Factors

		N
3=superior e 4=inferior	3.00	12
	4.00	12

Descriptive Statistics

	3=superior e 4=inferior	Mean	Std. Deviation	N
N Piscar sem prótese	3.00	.1774	.03977	12
	4.00	.1715	.04937	12
	Total	.1745	.04394	24
N Piscar 7 dias	3.00	.1922	.02895	12
	4.00	.1455	.02546	12
	Total	.1689	.03578	24
N Piscar 14 dias	3.00	.1989	.03303	12
	4.00	.1603	.04186	12
	Total	.1796	.04183	24
N Piscar 30 dias	3.00	.2023	.03737	12
	4.00	.1601	.04077	12
	Total	.1812	.04389	24
N Piscar 60 dias	3.00	.1997	.03619	12
	4.00	.1623	.04754	12
	Total	.1810	.04552	24

Multivariate Tests[b]

Effect		Value	F	Hypothesis df	Error df	Sig.
NPisca	Pillai's Trace	.209	1.258[a]	4.000	19.000	.321
	Wilks' Lambda	.791	1.258[a]	4.000	19.000	.321
	Hotelling's Trace	.265	1.258[a]	4.000	19.000	.321
	Roy's Largest Root	.265	1.258[a]	4.000	19.000	.321
NPisca * local	Pillai's Trace	.273	1.784[a]	4.000	19.000	.174
	Wilks' Lambda	.727	1.784[a]	4.000	19.000	.174
	Hotelling's Trace	.376	1.784[a]	4.000	19.000	.174
	Roy's Largest Root	.376	1.784[a]	4.000	19.000	.174

a. Exact statistic

b. Design: Intercept + local
Within Subjects Design: NPisca

Mauchly's Test of Sphericity[b]

Measure:MEASURE_1

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[a]		
					Greenhouse-Geisser	Huynh-Feldt	Lower-bound
NPisca	.005	106.804	9	.000	.358	.394	.250

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

b. Design: Intercept + local
Within Subjects Design: NPisca

Tests of Within-Subjects Effects

Measure:MEASURE_1

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
NPisca	Sphericity Assumed	.003	4	.001	1.087	.368
	Greenhouse-Geisser	.003	1.433	.002	1.087	.330
	Huynh-Feldt	.003	1.575	.002	1.087	.335
	Lower-bound	.003	1.000	.003	1.087	.308
NPisca * local	Sphericity Assumed	.006	4	.002	2.523	.047
	Greenhouse-Geisser	.006	1.433	.004	2.523	.111
	Huynh-Feldt	.006	1.575	.004	2.523	.106
	Lower-bound	.006	1.000	.006	2.523	.126
Error(NPisca)	Sphericity Assumed	.055	88	.001		
	Greenhouse-Geisser	.055	31.527	.002		
	Huynh-Feldt	.055	34.650	.002		
	Lower-bound	.055	22.000	.002		

Tests of Within-Subjects Contrasts

Measure:MEASURE_1

Source	NPisca	Type III Sum of Squares	df	Mean Square	F	Sig.
NPisca	Linear	.002	1	.002	.981	.333
	Quadratic	4.633E-6	1	4.633E-6	.008	.930
	Cubic	.001	1	.001	3.360	.080
	Order 4	.000	1	.000	3.650	.069
NPisca * local	Linear	.002	1	.002	1.293	.268
	Quadratic	.003	1	.003	4.676	.042
	Cubic	.001	1	.001	4.211	.052
	Order 4	.001	1	.001	5.430	.029
Error(NPisca)	Linear	.035	22	.002		
	Quadratic	.013	22	.001		
	Cubic	.005	22	.000		
	Order 4	.002	22	.000		

Tests of Between-Subjects Effects

Measure:MEASURE_1

Transformed Variable:Average

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Intercept	3.760	1	3.760	753.129	.000
local	.035	1	.035	7.017	.015
Error	.110	22	.005		

Estimated Marginal Means

3=superior e 4=inferior

Measure:MEASURE_1

3=superior e 4=inferior	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
3.00	.194	.009	.175	.213
4.00	.160	.009	.141	.179

T-TEST GROUPS=local(3 4) /MISSING=ANALYSIS /VARIABLES=NPISCAR NPISCAR7 NPISCAR14 NPISCAR30 NPISCAR60 /CRITERIA=CI(.95).

T-Test

Notes

Output Created		28-Jun-2012 21:22:37
Comments		
Input	Data	C:\Users\Simone\Desktop\DAni junho 2012 dados divididos E NORMALIZADOS.sav
	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	24
Missing Value Handling	Definition of Missing	User defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on the cases with no missing or out-of-range data for any variable in the analysis.
Syntax		T-TEST GROUPS=local(3 4) /MISSING=ANALYSIS /VARIABLES=NPISCAR NPISCAR7 NPISCAR14 NPISCAR30 NPISCAR60 /CRITERIA=CI(.95).
Resources	Processor Time	0:00:00.015
	Elapsed Time	0:00:00.024

[DataSet1] C:\Users\Simone\Desktop\DAni junho 2012 dados divididos E NORMALIZADOS.sav

Group Statistics

	3=superior e 4=inferior	N	Mean	Std. Deviation	Std. Error Mean
N Piscar sem prótese	3.00	12	.1774	.03977	.01148
	4.00	12	.1715	.04937	.01425
N Piscar 7 dias	3.00	12	.1922	.02895	.00836
	4.00	12	.1455	.02546	.00735
N Piscar 14 dias	3.00	12	.1989	.03303	.00953
	4.00	12	.1603	.04186	.01208
N Piscar 30 dias	3.00	12	.2023	.03737	.01079
	4.00	12	.1601	.04077	.01177
N Piscar 60 dias	3.00	12	.1997	.03619	.01045
	4.00	12	.1623	.04754	.01372

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
N Piscar sem prótese	Equal variances assumed	1.814	.192	.324	22	.749	.00593	.01830	-.03202	.04388
	Equal variances not assumed			.324	21.047	.749	.00593	.01830	-.03212	.04398
N Piscar 7 dias	Equal variances assumed	.289	.596	4.199	22	.000	.04673	.01113	.02365	.06981
	Equal variances not assumed			4.199	21.647	.000	.04673	.01113	.02363	.06983
N Piscar 14 dias	Equal variances assumed	.348	.562	2.512	22	.020	.03867	.01539	.00675	.07059
	Equal variances not assumed			2.512	20.871	.020	.03867	.01539	.00665	.07069
N Piscar 30 dias	Equal variances assumed	.064	.803	2.640	22	.015	.04215	.01597	.00904	.07527
	Equal variances not assumed			2.640	21.835	.015	.04215	.01597	.00903	.07528
N Piscar 60 dias	Equal variances assumed	.199	.660	2.167	22	.041	.03738	.01725	.00161	.07315
	Equal variances not assumed			2.167	20.546	.042	.03738	.01725	.00146	.07330