OTAGO MEDICAL SCHOOL
RESEARCH SOCIETY

Instructions to Authors for Preparation of an Abstract

The OMSRS invites the submission of abstracts in the field of health-related research from students studying at the University of Otago. The following instructions relate to the presentation and submission of the abstract.

Formatting: The abstract is to be prepared double-spaced and fully justified using 12-point Arial font. The total word count excluding title, authors and affiliations must not exceed 300 words. Leave one blank line before commencing the Text. Paragraphs should not be indented but should be separated by a blank line. Acknowledgement of sources of financial support should be stated in a new paragraph and italicised at the end of the abstract. Avoid the use of bold print within the Abstract. Do not provide sub-headings in the body of the abstract.

Restrictions: To conform to *New Zealand Medical Journal* requirements, the following content is not permitted in abstracts: tables, figures, references and statements regarding ethics approvals (note that all presented research must have full ethics approval and submission by the presenting author and the supervisor's signature is confirmation that the research is compliant).

Title, authors and addresses: The title should be brief and as precise as possible. It should be relevant to the key original point of information contributed by the study and should preferably be descriptive, e.g. '**Human papillomavirus type 16 E6 protein regulates cell surface E-cadherin expression.**' Write the title in lowercase bold letters with a full stop. Continue the list of authors on the same line as the title. List the authors in lowercase bold using **both** initials (without full stops or spaces), preceding the surname by a space. The name of the presenting author should be underlined. Superscript Arabic numerals may be used to signify differing affiliations. Brief addresses should follow in lowercase bold, listing Department, School, University of Otago, Dunedin and terminating with a full stop.

Text: The abstracts should be structured to convey information effectively and succinctly to a general audience of health researchers. Abstracts should describe the background and aims of the study, the methods used, the results including specific data/findings, and the conclusions of the study. The first paragraph should provide a brief introduction to the field, highlighting the research question/s that lead to the aims/goal/purpose of the study. A concise description of the methods should follow. The detail depends on the originality of the technique or approach used. Results should report in a logical fashion what data were generated and how that data was analysed/interpreted. The final paragraph should clearly highlight/emphasise the outcomes of the study and relate these findings to the original research question/s.

Presentation of Results: Data should be presented in the text as mean values with standard deviations or errors (state which is used) or confidence intervals. Statistical tests and *P*-values should be included, in particular when a significant difference between groups is described. Group size should be reported. Alternatively, data may be reported descriptively where appropriate. Systeme International d'Unites (SI) units should be used. There should be a space between a numeric value and its associated units (e.g. Weight = 5.4 mg) and sequential units should not be separated by spaces. Technical terms that are not

likely to be familiar to a general audience should be defined. Write foreign phrases, such as *in vivo*, *in situ* or *milieu intérieur* in italics.

Nomenclature: Nomenclature of viruses, bacteria, chemicals and genes should follow Journal of Virology guidelines. Instructions for authors can be downloaded from the Journal of Virology website (http://jvi.asm.org/).

Abbreviations: Define all non-standard abbreviations by spelling out in full when first used, with abbreviation following in parenthesis. Abbreviations for microorganisms should follow standard scientific notation, i.e. the first letter of the genus in UPPERCASE followed by the species name in lowercase (e.g. *P. aeuruginosa*). In addition to abbreviations for SI units of measurement, other common units (e.g. bp, kb and Da) and chemical symbols for the elements, the following should be used without definition in the title and abstract: DNA (deoxyribonucleic acid); cDNA (complementary DNA); RNA (ribonucleic acid); cRNA (complementary RNA); RNase (ribonuclease); DNase (deoxyribonuclease); rRNA (ribosomal RNA); mRNA (messenger RNA); tRNA (transfer RNA); AMP, ADP, ATP, dAMP, ddATP, GTP, etc. (for the respective 5 phosphates of adenosine and other nucleosides) (add 2 -, 3 -, or 5 - when needed for contrast); ATPase, dGTPase, etc. (adenosine triphosphatase, deoxyguanosine triphosphatase, etc.); UV (ultraviolet); Tris [tris(hydroxymethyl)aminomethane]; DEAE (diethylaminoethyl); EDTA (ethylenediaminetetraacetic acid); EGTA [Ethylene glycol-bis(beta-aminoethyl ether)-*N,N,N′,N′*-tetraacetic acid]; HEPES (*N*-(2-hydroxyethyl)piperazine-*N'*-(2-ethanesulphonic acid); PCR (polymerase chain reaction); AIDS (acquired immunodeficiency syndrome), SD (standard deviation); SEM (Standard error of the mean); *P* (probability).

Submission of abstracts: An electronic copy as a Word document (by e-mail with 'OMSRS Abstract' as the subject line) of the abstract and abstract submission form should be forwarded to the Editor:

Dr Tania Slatter
Department of Pathology
Dunedin School of Medicine
University of Otago
tania.slatter@otago.ac.nz

The Abstract Submission Form should be printed out and signed by the student's supervisor or Head of Department to confirm that all authors agree that the research is to be presented and that all ethical requirements for the research have been met. The completed Abstract Submission Form should be scanned and emailled to the Editor with the abstract.

Abstracts selected for presentation are published in the *New Zealand Medical Journal* (Examples attached). However, abstracts can be printed in the abstract book and presented at the meeting, but withdrawn from publication in the *New Zealand Medical Journal* if requested by the authors **at the time of submission**.

Abstract Submission Form

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Template Title. **Presenting Author[1], A Co-author[2]. [1]Department of Presenting Author, [2]Department of Co-Author, School of Authors, University of Otago, Dunedin.**

Body of text (not to exceed 300 words).

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Examples:

Proceedings of the 188th Scientific Meeting of the Otago Medical School Research Society, Thursday 5 July 2007.

Altered muscle activation during a weight-bearing task following hamstring injuries.

G Sole[1], A Gray[2], S Milosavljevic[1], H Nicholson[3], S Sullivan[1]. [1]Centre for Physiotherapy Research, School of Physiotherapy, [2]Department of Preventive and Social Medicine, Dunedin School of Medicine, [3]Department of Anatomy and Structural Biology, Otago School of Medical Sciences, University of Otago, Dunedin.

Altered electromyographic (EMG) patterns of trunk, gluteal and thigh muscles have been found in groups of subjects with lumbopelvic or knee disorders and their presence may contribute towards injury prolongation or recurrence**.** This study aimed to investigate whether differences in EMG patterns of selected muscles exist when comparing subjects with a recent hamstring injury (HI) and control subjects during a weight-bearing task.

Sixteen sportsmen with a recent clinically diagnosed HI were compared to an uninjured control group (CG) of 18 men. Surface EMG activity was recorded from the gluteus maximus, gluteus medius, biceps femoris (BF), medial hamstring (MH), and the quadriceps muscles of the weight-bearing leg during contralateral hip flexion. Muscle onsets were expressed relative to the start of the anticipatory postural adjustments seen in force platform data.

There were no significant differences for muscle onsets for the injured versus uninjured sides (HI group) and the preferred versus non-preferred sides (CG, $P > 0.05$, paired *t*-tests). In the HI group, onsets of BF and MH of the injured side, and onsets of MH of the uninjured side, were significantly earlier when compared to the CG bilateral average (mean difference ± SEM, injured BF 208.1 ± 75.0 ms, $P < 0.01$; injured MH 114.0 ± 44.5 ms, $P < 0.02$, uninjured MH 103.3 ± 49.3 ms, $P < 0.05$, ANOVA controlling for age and activity level). There were no between-group differences for the gluteal and quadriceps muscles onsets, and the uninjured BF.

The earlier onset of the hamstring muscles in preparation for single leg stance of the injured and uninjured leg of the HI group in comparison to the bilateral average of the CG suggests an alteration in the motor control of these muscles. These changes may be an important factor to be considered in the rehabilitation of hamstring injuries.

Supported by a grant from the New Zealand Society of Physiotherapists Scholarship Trust.

The orf virus protein ORFV125 acts in a Bcl-2-like manner to inhibit apoptosis.

D Westphal[1], E Ledgerwood[2], S Fleming[1], A Mercer[1]. [1]Department of Microbiology and Immunology, [2]Department of Biochemistry, Otago School of Medical Sciences, University of Otago, Dunedin.

Apoptosis is one of the host cell's responses in its fight against virus infection. Therefore, many viruses have developed strategies to circumvent apoptosis; one of these includes the expression of Bcl-2 homologs. The Bcl-2 family of proteins are regulators of the mitochondrial pathway of apoptosis. It has been proposed that the pro-apoptotic family members are activated by various apoptotic signals and thereupon induce mitochondrial apoptosis, while the anti-apoptotic family members prevent this process by inhibiting the activity of their pro-apoptotic counterparts. We have shown that orf virus can express an inhibitor of apoptosis, ORFV125, which shows some similarities to the cellular anti-apoptotic protein Bcl-2. However, the mechanism by which ORFV125 inhibits apoptosis is still unknown. The present study investigates whether ORFV125 inhibits the activation of the pro-apoptotic Bcl-2 proteins Bax and Bak.

TK143B cells stably expressing either ORFV125, Bcl-2 or the empty-vector were incubated with 50 μM caspase inhibitor (Z-VAD-FMK), added 1 h before UV-C treatment (80 J/m2). Eight hours after UV irradiation cells were stained with anti-Bax or -Bak antibodies and visualised by fluorescence microscopy. The antibodies used recognise an N-terminal epitope, which is exposed only when the proteins are activated by an apoptotic stimulus. While the empty-vector cell line showed a substantial number of cells expressing active Bax (30 ± 3%, mean ± SD, n = 3), almost no active Bax was detected in cells

expressing either ORFV125 (0.6 ± 0.1%, $P < 0.001$, ANOVA multiple comparison test) or Bcl-2 (2 ± 0.6%, $P < 0.001$). A similar result was obtained for the activation of Bak, showing that ORFV125 can fully inhibit the activation of both proteins in a manner comparable with Bcl-2.

These results suggest that ORFV125 acts in a Bcl-2-like manner, and supports our predictions that ORFV125 may be a distant member of the Bcl-2 family.

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Generic medicines and their use: Perceptions of South African consumers. A Patel[1], P Norris[1], R Gauld[2]. [1]School of Pharmacy, [2]Department of Preventive and Social Medicine, Dunedin School of Medicine, University of Otago, Dunedin.

Many developing countries have introduced policies encouraging the use of generic medicines in order to improve access to affordable essential medicines. Successful implementation of these policies requires acceptance by all stakeholders, including the consumer. The present, qualitative, study explores South African consumers' perceptions regarding generic medicines and their impact on their medicine purchasing behaviour.

Data were collected through focus group discussions (n = 12 groups) conducted in three cities within South Africa during December 2005 to January 2006. Key informants were purposively sampled according to their socio-economic status. Key informants recruited other participants through snowball sampling, yielding a total of 72 participants. During the discussions participants were asked whether they would select between brands of paracetamol (i.e. PanadoR, innovator brand; PacimolR, generic) to treat a headache. A second scenario required them to select between brands of amoxicillin (i.e. AmoxilR, innovator brand; MoxypenR, generic) for treatment of an infection. Discussions were tape-recorded and transcribed. Content analysis of the transcriptions was undertaken by the first author and reviewed jointly by the research team for confirmation.

Across all income and age groups, participants selected the original paracetamol for their headache. For amoxicillin, participants relied on the prescriber to decide which product to use. They agreed with generic substitution provided the prescriber supported this.

Participants felt that cheaper generic products were of inferior quality. They reported they would pay higher prices to obtain the original medicines to treat their minor ailments, and that they would rely on the advice of their doctor and pharmacist for the prescription medicines.

Governments have to ensure that adequate information campaigns, which target consumers and healthcare providers, accompany implementation of policies for generic medicines. This is needed to achieve success in the overall goal of improving access to affordable, quality medicines.