



VENICE
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WORK-IN-PROGRESS - THE IMPACT OF VIRTUAL REALITY ON PAIN MANAGEMENT DURING ORTHODONTIC DEBONDING



BOULHAL Inès
Hospital of Reims

MAILLOUX Aurélie
Hospital of Reims
email: aurelie.mailloux@gmail.com



Introduction

Method

Discussion

Perspectives

Aurélie Mailloux

Orthodontic department of the Reims hospital

Doctor in ergonomomy



Research focus on :

- Development of simulation devices to train orthodontic
- The therapeutic use of VR



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Some orthodontic procedures, involve **discomfort** and/or **pain**

V. Krishnan, 2007
O.L Williams and S. E. Bishara, 1992
[Y. Shen and al, 2015



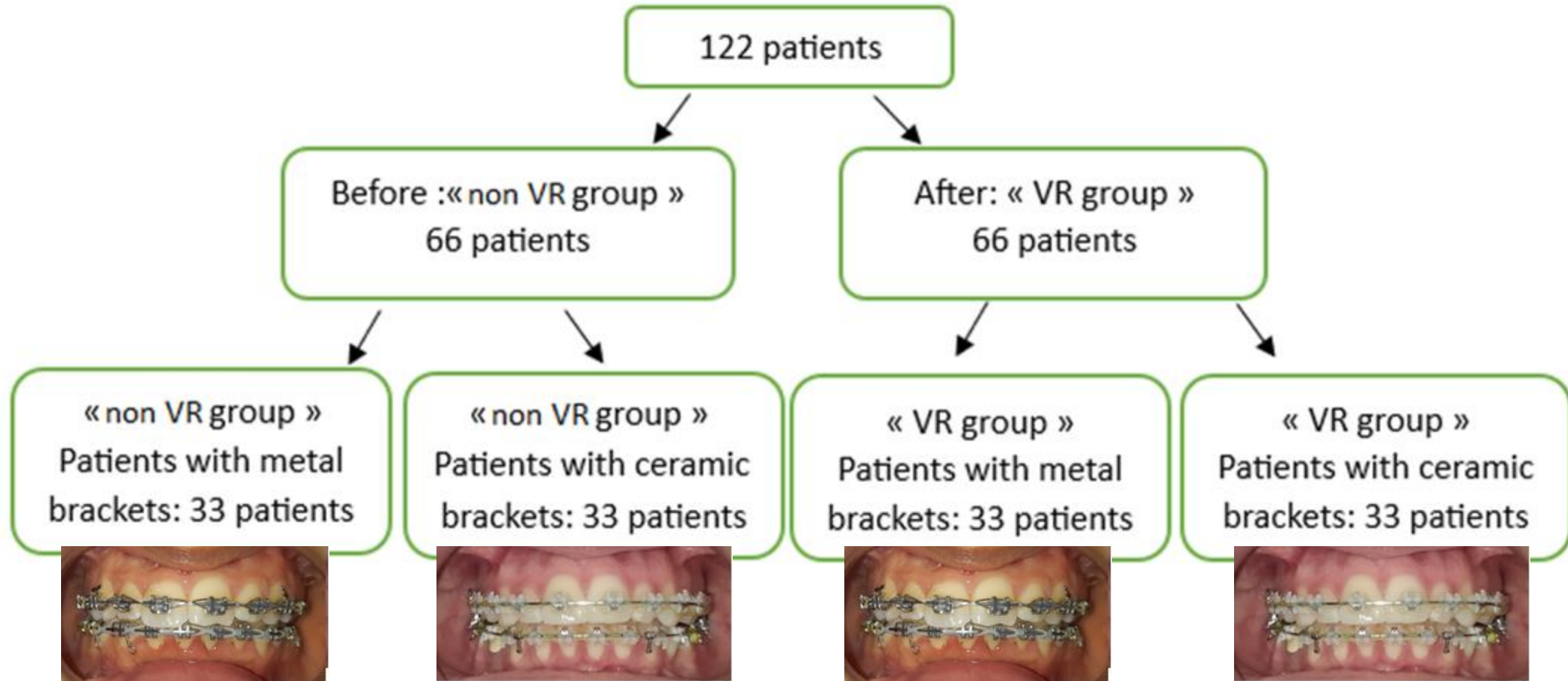
Virtual Reality (VR) distraction techniques seems to be **promising**

W. J. da Silva, and al. 2010
M. Pringle, A. Petrie, S. J. Cunningham, and M. McKnight. 2009



Few studies dedicated to the management of pain during orthodontic debonding and **none on VR**

W. J. da Silva, and al. 2010
M. Pringle, A. Petrie, S. J. Cunningham, and M. McKnight. 2009





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Inclusion criteria

From 12 years old

With complete fixed appliance
(metal/ceramic)

With their fixed appliance debonding
scheduled from September 2023.



Non inclusion criteria

Cognitive disorder

Non-French understanding

Medical history of epilepsy

Blindness

Refusal

Medical history of analgesic/anxiolytic in the last 24h

Incomplete appliance at the time of debonding

Active periodontal disease with tooth mobility

Craniofacial dysmorphology

Presence of miniscrews



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Debonding « standardized » procedure :



Same orthodontic plier type



Constant team



Without adjunctive measures

Music

Video

Finger pressure

Cotton roll ...



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▪ *Collected data*

Appliance type (metal or ceramic)

Initials

Birth date (month and year)

Gender

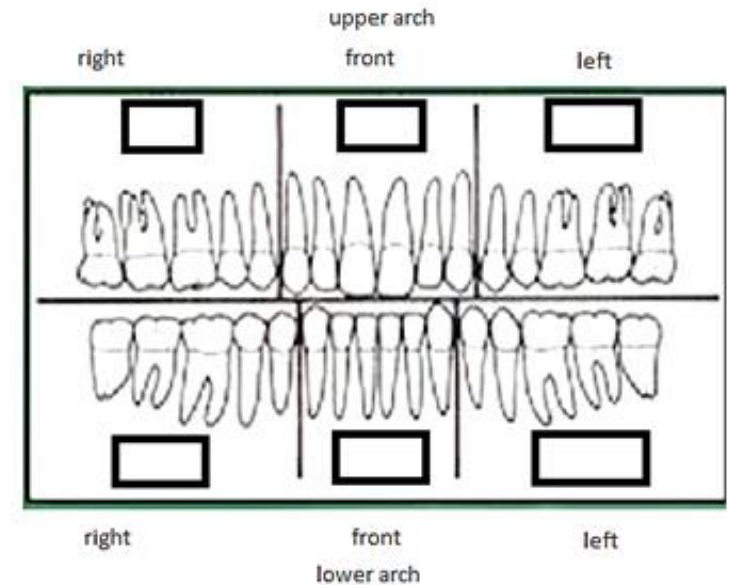
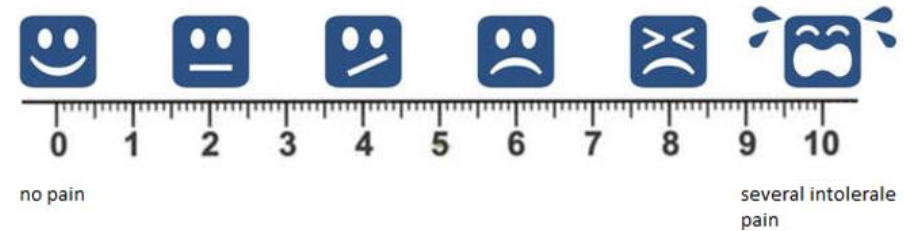
Date of debonding

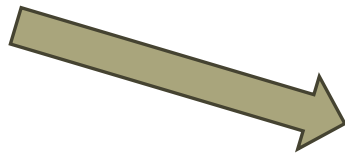
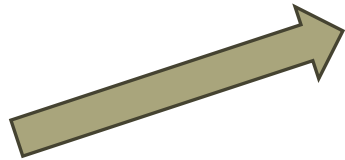
Practitioner name

▪ *Before orthodontic debonding*



▪ *After orthodontic debonding*







Limitations preventing the use of VR in real dental care situation



- Ecological setting vs laboratory setting
- Dentist working posture and headset ?
- Patient facial expression during care ?
- Acceptance of VR by patients ?





First study to investigate the effectiveness of the VR headset during orthodontic debonding



Other acute pain populations/etiology ?



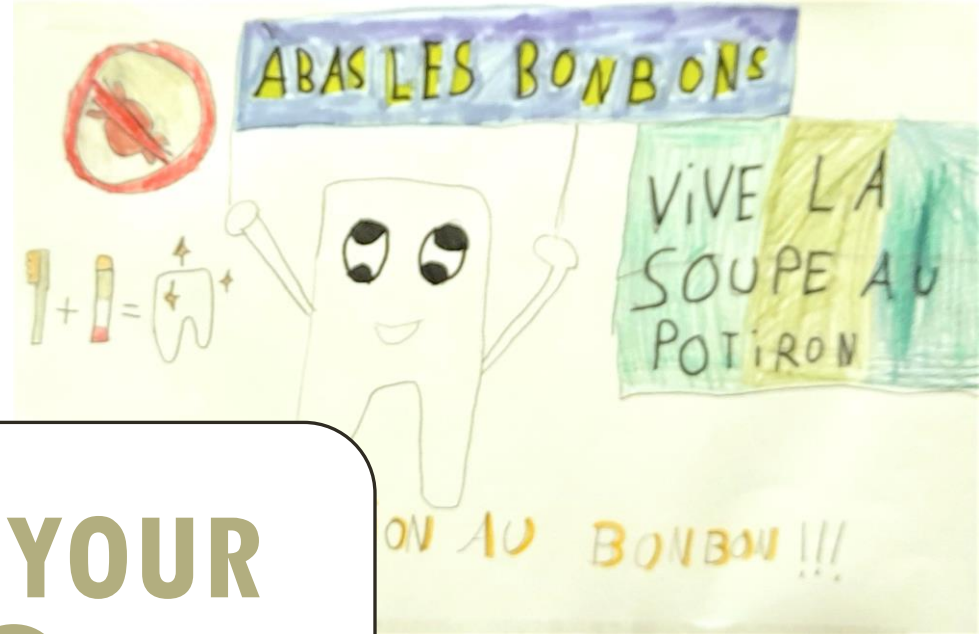
"No-VR" group : 30 patients with metal brackets, and 15 patients with ceramic



Benefits in terms of patient satisfaction ?



Comparison with other current methods ?



THANK YOU FOR YOUR ATTENTION 😊

JOYEUSE DENT

