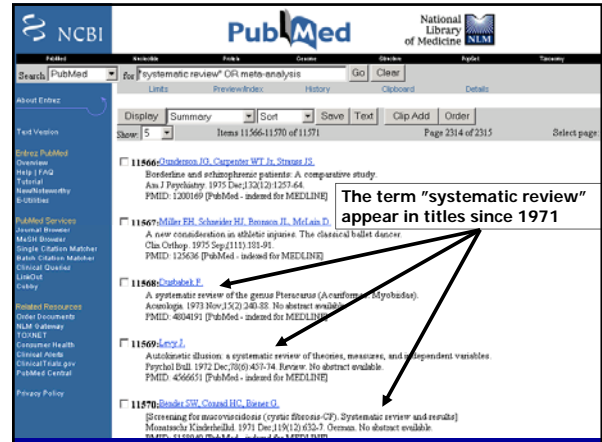




# Discrepancies of Conclusions from Systematic Reviews on Oral Implants and Prosthetics

Asbjørn Jokstad, DDS, PhD  
Professor and Head, Prosthodontics  
Faculty of Dentistry, University of Toronto



*"Systematic" review*  
...is just a word!

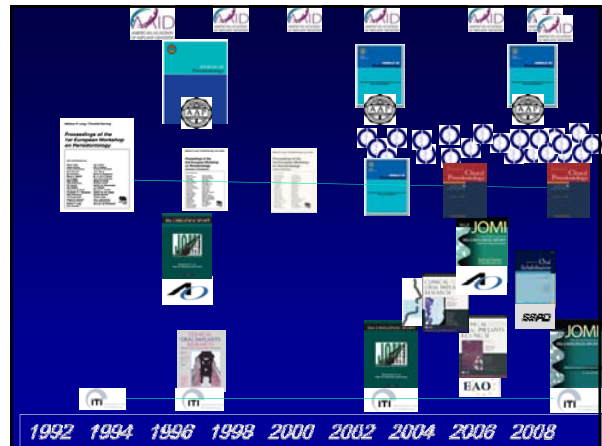
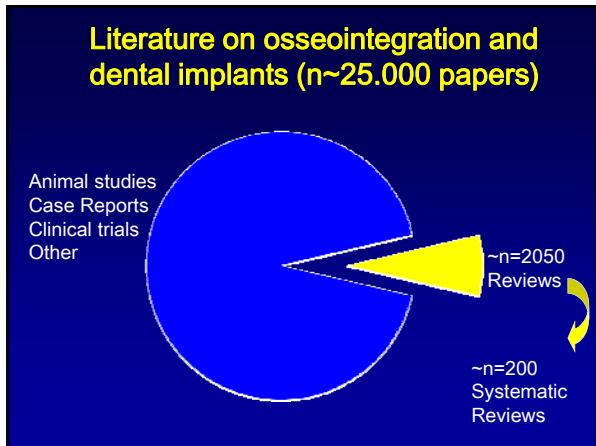
## S.R. requires 5 qualifiers

1. A question or hypothesis
2. All publications on the topic identified
3. Valid criteria to include or exclude the identified studies
4. Relevant data extracted, combined and compared
5. Conclusions based solely on the extracted data and the presence or absence of supporting evidence

## Systematic Reviews - problems

- The selection of studies to include will reflect the conclusions
- The study methodology aspects will reflect the conclusions
- There is a need to focus on studies with good methodological designs

In other words:  
If garbage in  
➔  
garbage out



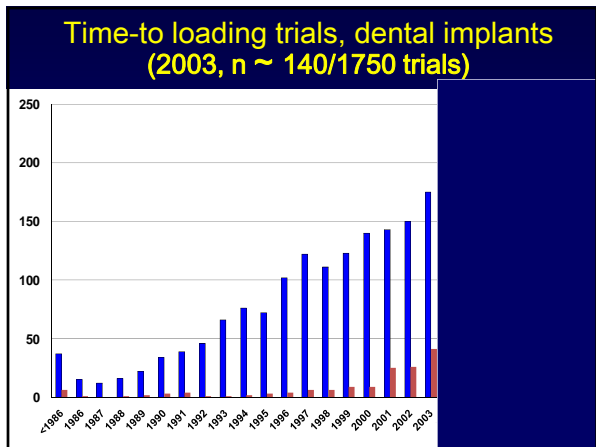
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ON IMPLANT  
DENTISTRY  
Academy of Osseointegration  
August 3-6, 2006  
CONSENSUS  
CONFERENCE

**Academy of Osseointegration**

2003  
Task: Prepare the background documentation to allow an expert committee to answer the question:  
*What is the scientific basis for estimating the effects of immediate loading on treatment outcomes?*

### Immediate/early loading is beneficial? S.Rs (2003)

2003	Esposito ea. (lim. HI-quality RCTs) (3)
1.	Lekholm (15)
2.	Aparicio ea. (45)
3.	Gapski ea. (26)
4.	
2000	Szmukler-Moncler ea. (16)



Volume 22, 2007  
SUPPLEMENT

**JOMI**  
The International Journal of  
ORAL & MAXILLOFACIAL IMPLANTS  
The Official Journal of the Academy of Osseointegration

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ON IMPLANT DENTISTRY  
CONSENSUS CONFERENCE PROCEEDINGS

SECTION 3  
**What Is the Effect on Outcomes of Time-to-Loading of a Fixed or Removable Prosthesis Placed on Implant(s)?**  
Adriano Jansen, DDS, PhD/Allen & Cox, DMD\*

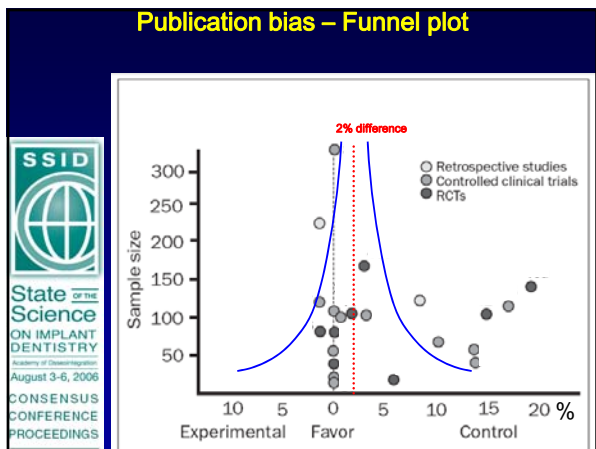
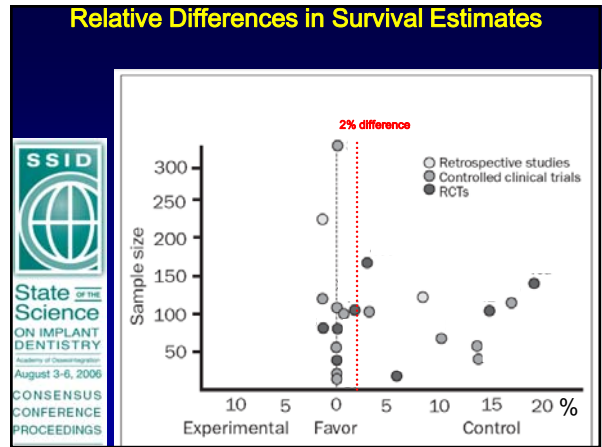
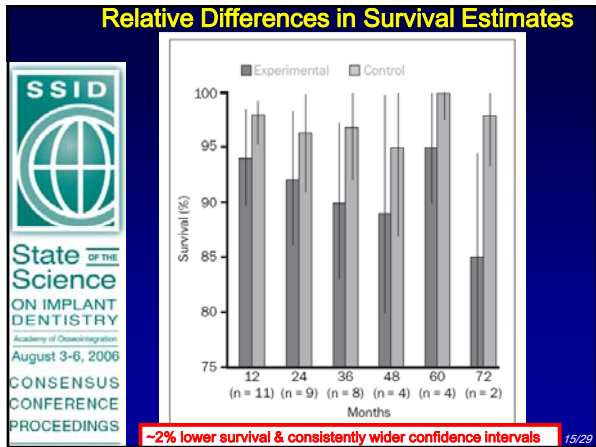
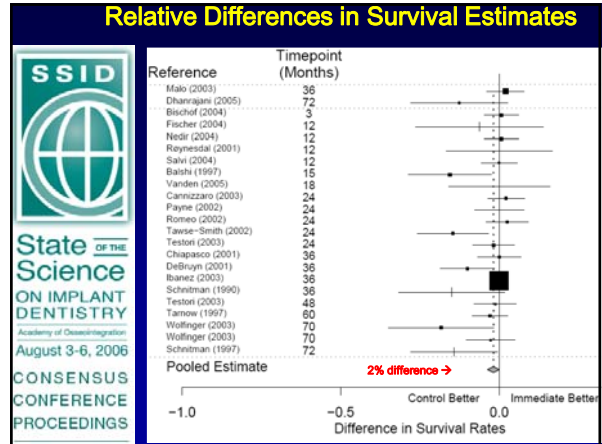
Abstract: A systematic review of the available literature to assess the effects of time-to-loading on treatment outcomes. Methods: PubMed search strategies, identify on implant prosthodontics, combined with searching of a personal library and references of included studies, resulted in 1,882 titles published before May 2, 2005. Two reviewers abstracted the titles and abstracts and identified 202 papers that reported effects of time to loading on treatment outcomes in clinical trials. These papers and abstracts appeared in full text. A set of standardized questions and metrics applied. All trials (randomized and nonrandomized clinical trials, prospective or retrospective) included in the review if both an experimental and a control group a member of the prosthesis had been fabricated or used in vivo and if the

1882 titles → 187 on immediate loading  
→ 22 papers reporting on 19 RCT/CCT trials

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### Clinical variables found to influence treatment outcome

- Patient inclusion/exclusion criteria (e.g. host factors, smoking, parafunction, bone type, etc.)
- State of dentition and intra-oral implant site
- Number of implants to support the suprastructure
- Design of implant-supported suprastructure
- Clinical procedures (e.g. stage of healing following extraction, site preparation, torque, etc.)
- Implant morphology (smooth, microrough, rough)
- Treatment outcome criteria
- Observation period



Literature cut off date : 1st May 2005

Conference: August 2006

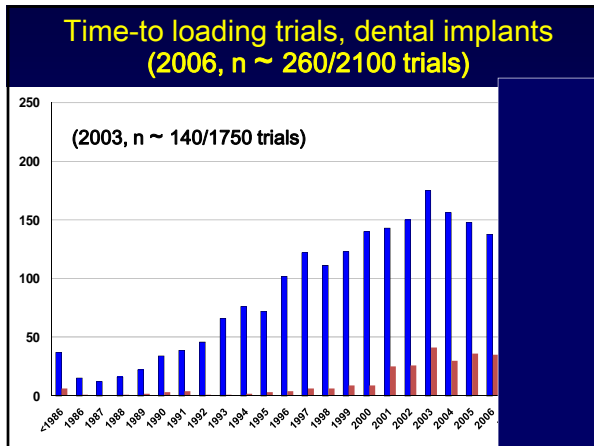
Publication: Spring 2007

SECTION 1

What is the Effect on Outcomes of Time-to-Loading of a Fixed or Removable Prosthesis Placed on Implant(s)?

Ashjan Juktal, DDS, PhD/Alan B. Caw, DMD\*

Abstract: A systematic review of the available literature to assess the effects of time to loading of implants on treatment outcomes. Methods: PubMed search to engage identifying clinical trials on implant prostheses, combined with searching of a personal library and reference lists from individual studies, resulting in 6,882 titles published before May 1, 2005. Two independent reviewers appraised the titles and abstracts and identified 287 papers that seemed to focus on the effects of time to loading on treatment outcomes in clinical trials. These papers were re-evaluated and critically appraised in full text. A set of standardized inclusion and exclusion criteria were applied. All fully randomized and nonrandomized clinical trials, prospective and retrospective were included in the review. If both an experimental and a control group were adequately described, the abstracts and full text were included for an overall 2-year, and if the results contained at...



### Immediate/early loading is beneficial? S.Rs 2006

- 2006: Jokstad & Carr (lim. RCT+CCTs (22 of 187))
- Glauser ea. (17 of 120), Nkenke & Fenner (38)
- Del Fabbro ea. (71)
- Ioannidou & Doufexi (13)
- 2005: Cooper ea (Edent. Maxilla (9))
- Attard & Zarb (93)
- 2004: Esposito ea. (lim. Hi-quality RCTs (7))
- Misch ea. (24)
- Cochran ea & Morton ea & Chiapasco (Edent.(45) & Ganeles&Wismeijer(Single/PartialEdent. (25))
10. Romanos (lim. Implant brand (10))
11. Misch ea. (72)
12. Castellon ea. (lim. mandible anterior (14))
13. Esposito ea. (lim. Hi-quality RCTs (3))
14. Lekholm (15)
15. 2003: Aparicio ea. (45)
16. Gapski ea. (26)
17. Szmukler-Moncler ea. (2000)(16)
18. <2003

Study	Esposito ea. (2007)	Jokstad & Carr (2007)	DelFabbro ea. (2006)	Nkenke & Fenner (2006)	Attard & Zarb (2005)	Cochran ea. IHI Workshop (2004)
Dhanrajani & Al-Rafee 2005	---	CCT	---	---	---	---
Vanden Bogarde ea. 2005	---	Cs-excluded	---	---	---	---
Ostman ea. 2005	---	CCT	---	---	---	---
Nedir ea. 2004	---	CCT	---	---	---	---
Bischof ea. 2004	---	CCT	---	---	---	---
Salvi ea. 2004	excluded	RCT	---	---	---	X
Fischer & Stenberg 2004	X	RCT	---	---	X	X
Testori ea. 2004	---	Cs-excluded	X	X	X	---
Camizzaro & Leone 2003	X	CCT	X	X	X	X
Ibanez ea. 2003	---	CCT	---	---	---	---
Malo ea. 2003	---	Retro	X	---	X	---
Testori ea. 2003b	excluded	CCT	X	---	X	---
Wolffinger ea. 2003	---	Submerg	X	---	X	X
Babish & Wolfinger 1997	---	Cs-excluded	X	X	X	---
Depidi & Pistelli 2003	---	Cs-excluded	X	X	X	---
Rocci ea. 2003	---	Cs-excluded	X	X	X	---
Tawse-Smith ea. 2002	X	RCT	---	---	X	X
Payne ea. 2002	X	RCT	---	---	X	X
Romero ea. 2002	X	RCT	X	X	X	X
Gatti & Chiapasco 2002	---	Cs-excluded	X	X	X	---
Chansu ea. 2001	---	Cs-excluded	X	X	X	---
Chiapasco ea. 2001	X	RCT	X	X	X	X
De Bruyn ea. 2001	---	Submerg	---	---	X	---
Reynisdal ea. 2001	---	CCT	---	---	X	X
Ericsson ea. 2000	---	Cs-excluded	---	X	X	X
Rocuzzo ea. 2001	excluded	Cs-excluded	---	---	X	X
Jo ea. 2001	---	Cs-excluded	---	---	---	X
Random ea. 2001	---	Cs-excluded	---	---	---	X
Schulman ea. 1997	---	Submerg	X	---	X	X
Schulman ea. 1990	---	Submerg	X	---	X	X
Tarnow ea. 1997	---	Submerg	X	---	X	X

### Reasons why systematic reviews include different papers

- PICOS\* question
  - What is the relative merit / benefit of the intervention?
- or
- What is the predictability of the intervention?

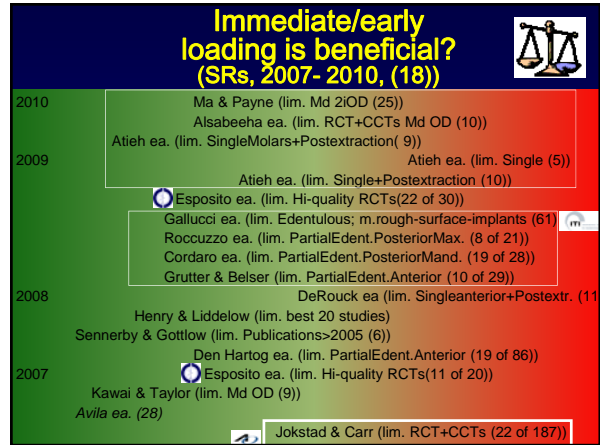
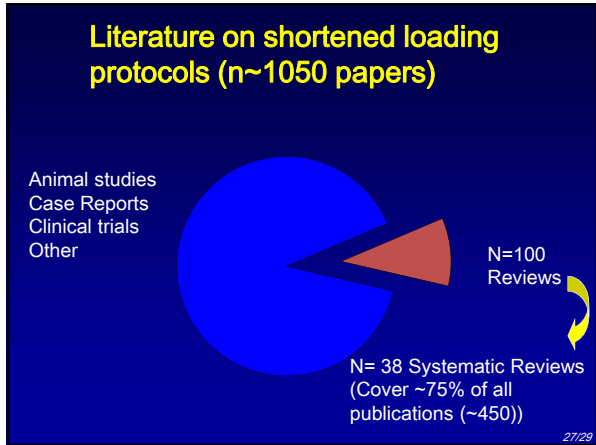
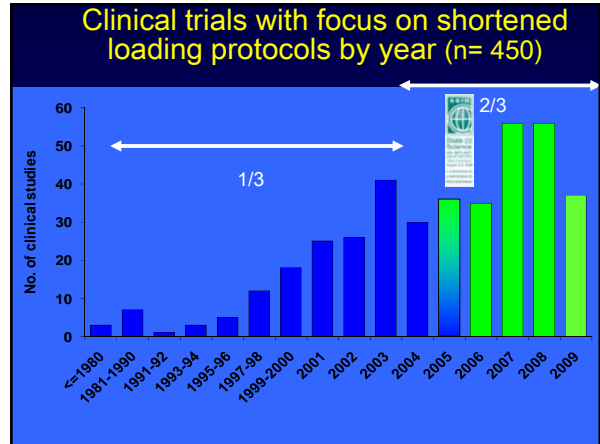
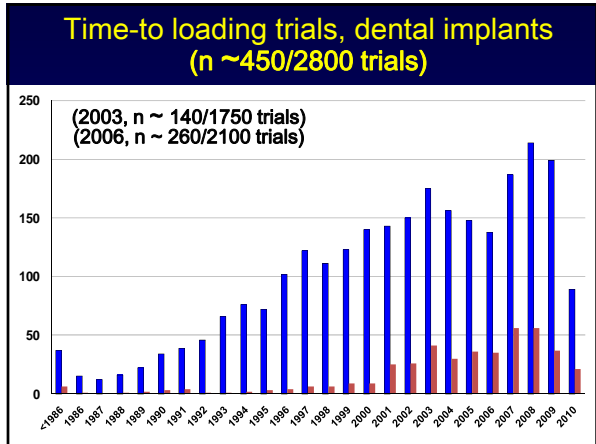
\*P atient  
 I ntervention  
 C omparative intervention  
 O utcome  
 S tudy design

	Relative merit	Predictability
1. High	High quality RCT with narrow confidence Interval	High quality Cohort study with ≥ 80% follow-up
2	Cohort study or low quality RCT - e.g. <80% follow-up	Retrospective cohort study or follow-up of control patients in an RCT
3.	Case-Control Study	
4.	Case-series (or poor quality cohort or case-control studies)	Case-series (or poor quality cohort studies)
5. Low	Expert opinion without explicit critical appraisal, or based on physiology, or bench research	Expert opinion without explicit critical appraisal, or based on physiology, or bench research

### Reasons why systematic reviews include different papers

- PICOS question
  - Relative merit of intervention?
  - Predictability of intervention?
- Adequate literature search?
- Study selection bias?
- Study inclusion and exclusion criteria?
  - CHECK: Excluded papers and reasons
- How are the findings combined?

24/29



## Symposium topic

**Critical Issues for Reconciling Disparities and Enhancing the Validity of Systematic Reviews**