

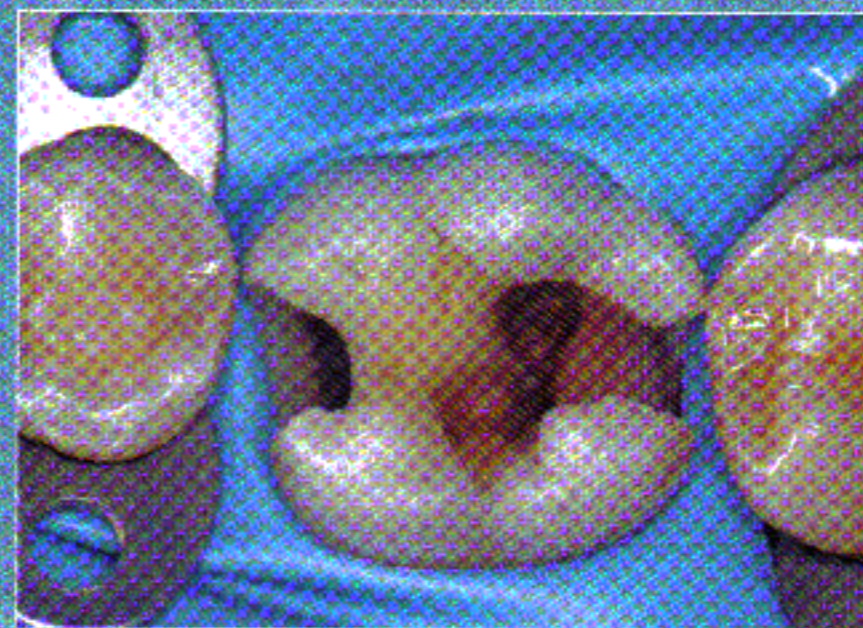
Colgate og Dansk Tandlægeforening



SYMPOSIUM 2004

PLAST I KINDTÆNDER

5. OG 6. NOVEMBER 2004
BELLA CENTER, KØBENHAVN



HOVEDSPONSOR: COLGATE
ARRANGØR: DTF EFTERUDDANNELSE

- 14.50-17.00 **BIOLOGISKE ASPEKTER – LOKALT**
Moderatorer: Dorthe Arenholt Bindslev og Christian Munksgaard
- 14.50-15.10 **Kontaktallergi hos tandplejepersonale**
Professor, överläkare Magnus Bruze
- 15.10-15.30 **Handsker – fordele og ulemper**
Afdelingslæge Bodil B. Knudsen
- 15.30-15.50 **Toxiske og allergiske reaktioner hos patienter**
Lektor, ph.d. Dorthe Arenholt Bindslev
- 15.50-16.10 **Pulpale reaktioner – kan man overkappe med adhæsiv?**
Lektor Preben Hørsted Bindslev
- 16-10-16.30 **Postoperative symptoms – etiology, prevention, and treatment**
Professor, dr.med.dent. Bernd Haller
- 16.30-17.00 **Spørgsmål fra salen**

Lørdag 6. november 2004

- 09.00-11.25 **KLINISK ANVENDELSE AF PLAST – HOLDBARHED**
Moderatorer: Ulla Pallesen og Asbjørn Jokstad
- 09.00-09.15 **Mælketænder**
Primære tænder – fyldninger i plast, glasionomer og amalgam
Lektor, dr.odont., ph.d. Vibeke Qvist
- 09.15-09.30 **Permanente tænder**
Forseglinger af initiale cariesangreb
Lektor, ph.d. Kim Ekstrand
- 09.30-09.45 **Klasse I og II plastfyldninger på børn og unge – 5 års opfølgning**
Viceovertandlæge, docent, MedSciDr Anna-Lena Hallonsten
- 09.45-10.00 **Fyldninger på voksne i Danmark – 20 års opfølgning**
Overtandlæge Ulla Pallesen
- 10.00-10.15 **Fyldninger i longitudinelle undersøgelser**
Professor odont.dr. Jan W. V. van Dijken
- 10.15-10.40 **Pause**
- 10.40-10.55 **Behandling i almen praksis**
Professor, dr.odont. Asbjørn Jokstad
- 10.55-11.15 **Inlays vs Fillings**
Professor, dr.med.dent. Jean-François Roulet
- 11.15-11.25 **Spørgsmål fra salen**

The longevity of composite resin restorations made in general practice settings

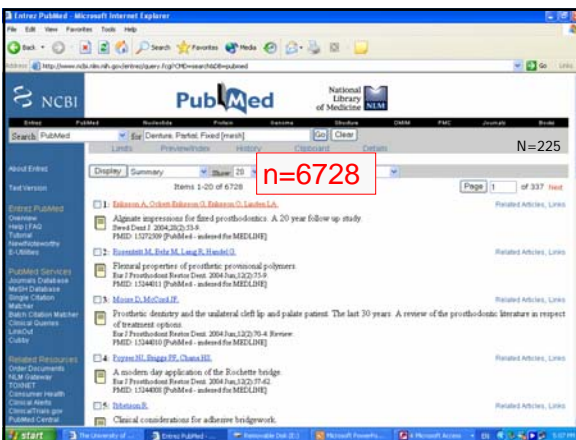
Asbjørn Jokstad
Institute of Clinical Dentistry, University of Oslo, Norway

An evidence-based critical appraisal approach

1. How many reports with focus on longevity of composite resin restorations can be identified?



2



Internet Explorer - Microsoft Internet Explorer

Search PubMed

Alginate impression for fixed prosthodontics

N=225

Items 1-20 of 6728

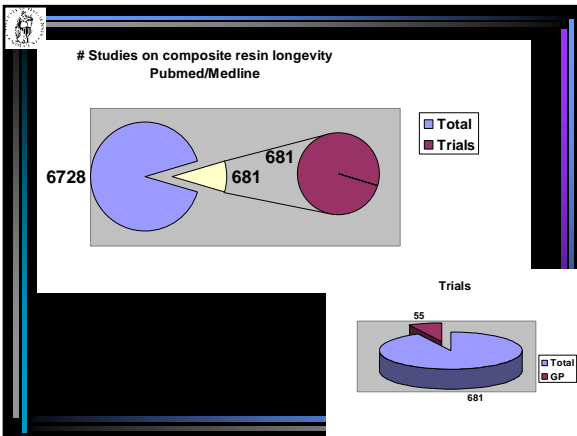
1. Ekstrøm A, Olsen Ekstrøm S, Ekstrøm O, Ludén LA. Alginate impression for fixed prosthodontics: A 20 year follow up study. *J Oral Maxillofac Surg*. 2004;62(2):134. PMID: 1571209 [PubMed - indexed for MEDLINE]

2. Ekstrøm M, Eide M, Lund R, Hestvik O. Plaster properties of prosthodontic provisional polymers. *Int J Prosthodont Restor Dent*. 2004 Jan;17(2):74. PMID: 1514411 [PubMed - indexed for MEDLINE]

3. Moore D, McCord JF. Prosthodontic dentistry and the unilateral cleft lip and palate patient: The last 30 years: A review of the prosthodontic literature in respect of restorative options. *Int J Prosthodont Restor Dent*. 2004 Jan;17(2):76. PMID: 1514410 [PubMed - indexed for MEDLINE]

4. Eyring M, Eyring SP, Chew HJ. A modern day application of the Eschette bridge. *Int J Prosthodont Restor Dent*. 2004 Jan;17(2):77-82. PMID: 1514408 [PubMed - indexed for MEDLINE]

5. Johnson B. Clinical considerations for adhesive bridgework.



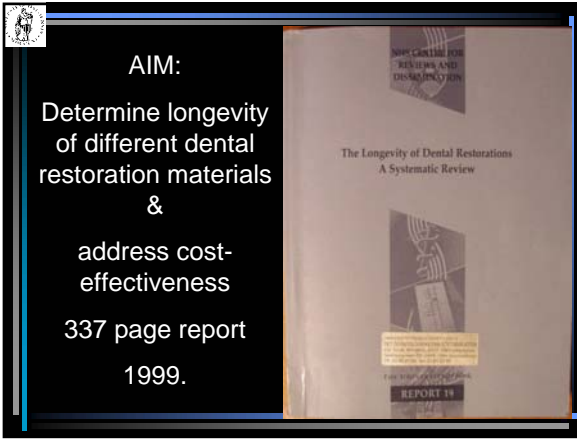
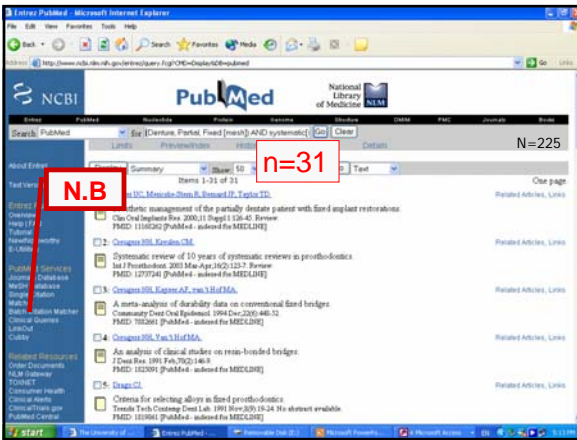
An evidence-based critical appraisal approach


1. How many reports related to the topic can be identified?
2. How are these approx. 6700 reports characterized on the basis of their study design?

How many reports are included within each category?

Length of evidence
Longevity of composite resin restorations in general practice settings

1: Systematic reviews	
2: Clinical evidence	
3: Laboratory evidence	
4: Opinions, descriptive studies, narrative reports, etc.	
	6700



 What is our principal clinical question/problem?


13

 1. Which material group perform best?

 2. Which product within the material group performs best?

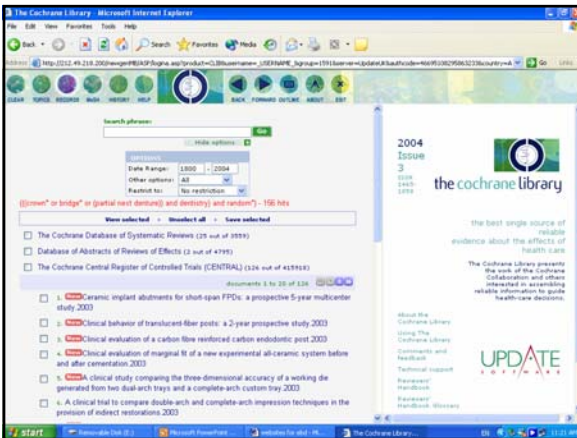
 SOLITAIRE 2

14

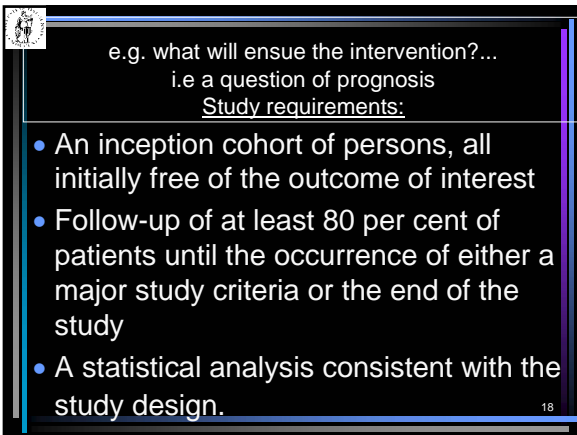
 e.g. what is the best intervention?
i.e a question of therapy.
Study requirements:

- Random allocation of the participants to the alternative interventions
- Outcome measures of known or probably clinical importance for at least 80 per cent of participants who entered the investigation
- A statistical analysis consistent with the study design.

15







...or any other questions regarding implementing (new) interventions:

	Qualitative research	Survey	Case Control	Cohort	RCT	Non-exper	Systematic review
Effectiveness Does it work?				☆	☆☆	☆	☆☆☆
Process of intervention delivery How does it work?	☆☆	☆				☆	☆☆☆
Saliency Does it matter?	☆☆	☆☆					☆☆☆
Safety Will it do more good than harm?	☆		☆	☆	☆☆	☆	☆☆☆
Acceptability Will the patient accept the intervention?	☆☆	☆			☆	☆	☆☆☆
Cost effectiveness Is it worth paying for the intervention?					☆☆		☆☆☆
Appropriateness Is this the right intervention for this patient?	☆☆	☆☆					☆☆
Satisfaction with the intervention Are users, providers and other stakeholders satisfied?	☆☆	☆☆	☆	☆			☆

An evidence-based critical appraisal approach

1. How many reports related to the topic can be identified?
2. How can these reports be characterized on the basis of study design? How many reports are included within each category?
3. What is the methodological scientific quality of these reports? How many reports can be excluded within each category due to questionable validity?

20

14000 papers -> 5675 studies

Outcome measure	Weak outcome measure				Strong outcome measure			
	Study design code number	Restoration requirement (subjective opinion)	Restoration requirement (use of criteria set by training)	Restoration requirement (use of any criteria, clinical and/or laboratory, though USPHS where not less extensive etc)	Restoration requirement (best outcome, clinical, training and laboratory, include USPHS where properly used)	Restoration failure (without criteria)	Restoration failure (with criteria)	
Outcome measure code		1	2	3	4	5		
1	1	X	X	X	X	X	X	
2	1	X	X	X	X	X	X	
3	2	X	X	X	X	X	X	
4	3	X	1	1	1	1	1	
5	4	X	1	1	1	1	1	
6	5	X	1	1	1	1	1	
7	7	X	1	1	1	1	1	
8	8	X	1	1	1	1	1	

652 studies
↓
253 studies
↓
195 studies

21

Journal of Dentistry
Journal of Dentistry 29 (2001) 155–161
www.elsevier.com/locate/jdent

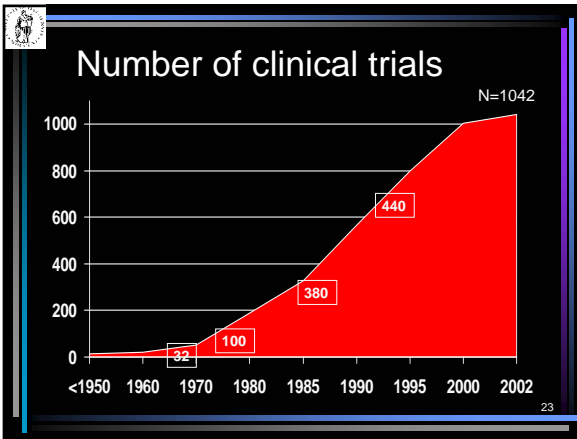
**Challenges with studies investigating longevity of dental restorations—
a critique of a systematic review**

B. Chadwick^{a,*}, E. Treasure^a, P. Dummer^a, F. Dunstan^a, A. Gilmour^a, R. Jones^a,
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Received 12 June 2000; accepted 10 January 2001

Abstract
Objectives: A systematic review is a method of evaluating the published and unpublished literature relating to a specific area or topic. The objectives of this paper are to identify and discuss problems encountered in synthesising the available literature; and to make recommendations for the future conduct and reporting of clinical trials that aim to determine the longevity of dental restorations.
Data sources: Studies were identified by a wide search of published and unpublished material in any language using a large number of general and specialist data bases, hand searching of key dental journals and searching of abstracts from conference proceedings.
Study selection: Pre-defined inclusion criteria based on objective outcome measures of restoration longevity and study designs were applied to determine study selection.
Conclusions: A review of the longevity of dental restorations complicated recently encountered substantial problems in designing an appropriate protocol to address this issue. The review found that many of the factors reported previously as affecting restoration longevity could not be confirmed using the agreed systematic review protocol that incorporated an objective study design. Further, the multiplicity of study designs, and reporting methods found in the literature made meta-analyses impossible. A protocol is proposed in order to aid the design of future research into the longevity of restorations. © 2001 Elsevier Science Ltd. All rights reserved.



Strength of the evidence:
Longevity of composite resin restorations

1: Systematic reviews	~20
2a: RCTs	~20
2b: Prospective cohort studies	321 *
3: Other clinical trials (e.g. retrospective, cross-sectional, etc.)	
4: Experimental (laboratory) studies	~2000
5: Opinions, descriptive studies, reports, etc.	>3000

*<5yrs: 65%, 5-10yrs: 25%, >10yrs: 10%
24

Strength of the evidence:
Longevity of composite resin restorations in general practice settings

1: Systematic reviews	~20
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An evidence-based critical appraisal approach

1. How many reports related to the topic can be identified?
2. How can these reports be characterized on the basis of study design? How many reports are included within each category?
3. What is the methodological scientific quality of these reports? How many reports can be excluded within each category due to questionable validity?
4. How can the most relevant trials be described in terms of participants-interventions- observation period and outcome measures

Selected trials


Study	Methods	Participants	Interventions	Outcomes	Results



An evidence-based critical appraisal approach


1. How many reports related to the topic can be identified?
2. How can these reports be characterized on the basis of study design? How many reports are included within each category?
3. What is the methodological scientific quality of these reports? How many reports can be excluded within each category due to questionable validity?
4. How can the reports be described?
5. Which conclusions and implications can be drawn from the present science foundation?

28



Strength of the evidence: Longevity of composite resin restorations in general practice settings

1. A large volume of the literature consists of narrative reviews
2. Extrapolation from laboratory data is often used uncritically
3. Many clinical studies are not appropriately designed to demonstrate clinical superiority and/or for survival estimations
4. Most RCTs are small and underpowered
5. Majority of clinical studies use surrogate outcomes and not patient-focused criteria
6. Most clinical trials studies are done in secondary settings- not real-life dentistry



An evidence-based critical appraisal approach

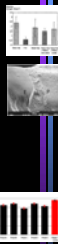
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4. How can the reports be described?
5. Which conclusions and implications can be drawn from the present science foundation?
6. Which questions have not been answered by these studies?

30

Laboratory tests - clinical relevance? 1/2

Static stresses
 Compressive (crushing) strength, 1h & 24 h
 Tensile strength, 15 min.
 Transverse strength, 1h & 24 h
 (Flexure/bending/modulus of rupture)
 Modulus of elasticity (Young's Modulus)
 Shear modulus

Dynamic tests
 Compressive modulus
 Tensile modulus
 Bending modulus
 Resilience
 Fatigue
 Fracture toughness




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Laboratory data - clinical relevance? 2/2

Other defined tests
 Flow (Creep) 3-24 h
 Dimensional change 5 min -24 h
 (Polymerization/setting contraction/expansion)
 Hardness
 Thermal Expansion Coefficient
 Water solubility
 Water sorption


Other undefined tests
 Abrasion resistance (Wear)
 Adhesion
 Color stability
 Surface roughness
 Margin leakage



The USPHS system — a surrogate measure or still of relevance?

e.g. color match

Test: Visual inspection at 45 cm without mirror on anterior restorations:
Alfa: Restoration matches adjacent tooth structure in color, shade and/or translucency
Bravo: Mismatch in color and/or translucency is within normal range of color, shade and/or translucency
Charlie: Mismatch in color and/or translucency is outside normal range of color, shade and/or translucency
(Oscar: Restoration cannot be seen without mirror)



(Cvar & Ryge, 1973)

 **Manufacturers** and **society** have different interests:

What is the potential of a new or modified material?
i.e. all variables must be controlled to avoid confounding

How do different materials perform in practice?

When will society become interested?^{3,4}

 Thank you
for your
kind
attention

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