Activity Report

WG Relation Between Dental Practitioner & Universities

Bangkok, September 2015

Presentation layout

1. Developing resources for clinical practice

a. Model list for practical resources EBD
b. Draft list of clinical guidelinesfor dental practice
c. EBD article in IDJ
d. Model article - How to ask a question and find evidence?

2. Attitudes towards clinical guidelines for dental practice

Survey (How are clinical guidelines perceived?)

3. Relationship between ERO and ADEE

Presentation layout

1. Developing resources for clinical practice

a. Model list for practical resources EBD - provided
b. Draft list of clinical guidelines for dental practice - provided
c. EBD article in IDC - published
d. Model article - How to ask a question and find evidence? - ongoing

2. Attitudes towards clinical guidelines for dental practice

Survey (How are clinical guidelines perceived?) - ongoing

3. Relationship between ERO and ADEE

MODEL LIST for PRACTICAL RESOURCES for EBD

ERO web-site

#	TITLE of RESOURCE	TYPE of RESOURCE (Book, web site, statement, review article, periodical journal, etc.)	AVAILABILITY (Publication info, address, etc.)	BRIEF SUMMARY, NOTES & RECOMMENDATIONS (free access, membership needed, fee) (How can this resource be used by the dental practitioner)	CONTENT (Case studies, level of evidence, implementation of EBD to practice)
1	The Basics of Evidence Based Dentistry. Elliot Abt.	review article	http://www.ada.org/sections/scienceAndResearch/pdfs/2_Abt.pdf	especially or beginners	• Evidence-based dentistry vs. traditional approach to decisions and clinical examples • Step by step evidence based decision making protocol • Hierarchy of evidence • Problems with published research
2	What is evidence-based dentistry? Gol Mohammadi	review article	Dent Clin North Am. 2002 Jan;46(1):1-9, v.	especially or beginners	• Definition and benefits of evidence based dentistry • Step by step evidence based decision making protocol • Guidelines for ev
3	Evidence-based Dentistry: Part VI. Critical Appraisal of the Dental Literature: Papers About Diagnosis, Etiology and Prognosis. Sutherland SS.	review article	J Can Dent Assoc. 2001 Nov;67(10):582-5.	especially or beginners	• The concept of cr • Evaluation of th research study • Guidelines for ev about diagnost
4	Application of evidence-based dentistry: from research to clinical periodontal practice. Kwok V, Caton JG. Palego AM. Hunter	review article	Periodontology 2000; Volume 59, Issue 1, pages 61–74, June 2012	especially or beginners	• Definition and b based m • Developing a intervention, com

#		Cochrane Database	Web site	www.thecochranelibrary.com	The Cochrane Library is a collection of six databases that contain different types of high-quality, independent evidence to inform healthcare decision-making, and a seventh database that provides information about groups in The Cochrane Collaboration. Search is free. For reaching journal articles membership needed.	Network of individuals and institutions committed to preparing, maintaining, and disseminating systematic reviews of the effects of health care
2		American Dental Association Centre for Evidence-Based Dentistry (ADA Center for EBD)	Web site	ebd.ada.org	A practical resource for scientific evidence. They provide systematically assessed evidence as tools and resources to support your clinical decisions. Search is free. For reaching journal articles membership needed.	**Systematic Reviews & Summaries** A database of studies on dental and oral health topics along with concise, user-friendly summaries ADA Clinical Recommendations Tools that provide guidance and assist you with clinical decision making Resources Additional support for evidence-based practice
3		Centre of Evidence-Based Medicine (CEBD)	Web site	www.cebm.net	CEBM aims to develop, teach and promote evidence-based health care through conferences, workshops and EBM tools so that all health care professionals can maintain the highest standards of medicine.	They offer a range of courses to clinicians and other healthcare professionals seeking to develop their EBM skills.

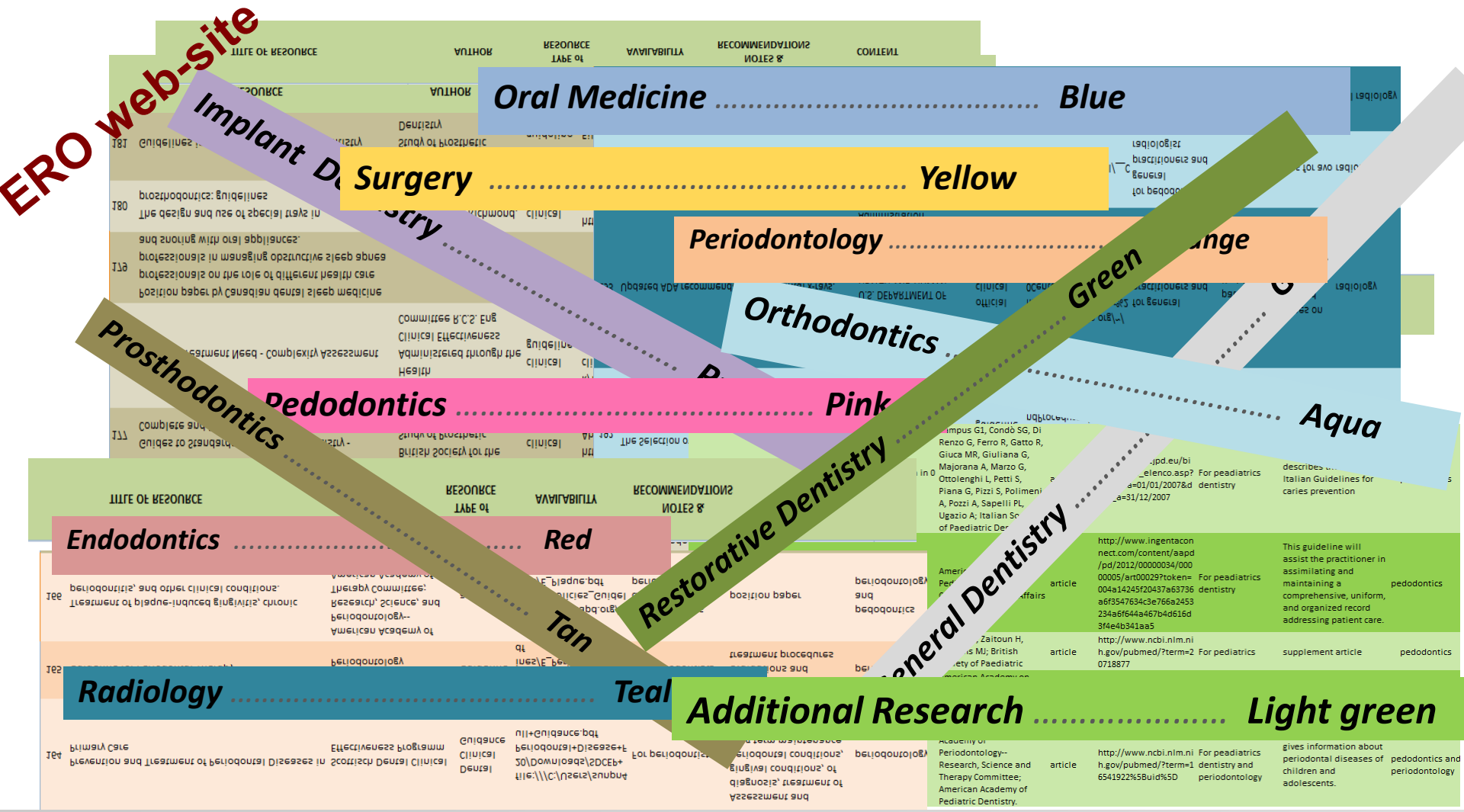
#	e-viDENT 2013
1	The main objective of the project was to raise awareness of "evidence based dentistry" among dental practitioners by developing an educational tool

#	COUNTRY	WEB SITE ADRESS	EBD SECTION	AVIABILITY (Free access, membership needed, fee etc)]	
1	USA	http://ebd.ada.org/	YES	free access (membership needed only in articles published in JADA)	There is int abo Recommen and "Tuto also arti
2	NEW ZELAND	http://www.nzda.org.nz/pub/index.php?id=69	YES	free access	The defin and the decisions this web si internet in EBI
3	INDIA	http://membership.ida.org.in/Membership_Detail/memScienceandEducation.aspx	YES	free access	IDA ackn dentistry dental educ
4	AUSTRALIA	http://www.ada.org.au/app_cmslib/media/lib/1009/m25625i4_v1_policy%20statement%206.8%20evidence-based%20dentistry.pdf	/	/	They onl

#	AGENCIES & CENTERS				
1	Agency for Healthcare Research and Quality (AHRQ)	Web site	It is the health services research arm of the U.S. Departement of Health and Human Services (HHS).	www.ahrq.gov	EB information on quality improvement and patient safety; outcomes and effectiveness of care; clinical practice and technology assessment; health care organization and delivery systems; primary care (including preventive services; and health care costs and sources of payment
2	Canadian Centres for Health Evidence (CHE)	Web site	CHE provides extensive information on how to identify the required evidence, how to critically appraise published literature and understanding statistics	www.cche.net	Knowledge-based resources and summaries to health professionals
3	Center for Evidence-Based Medicine *University of Toronto*	Web site	Materials related to teaching and practicing EBD	www.cebm.utoronto.ca	Glossary of EBM terms, resources for handheld devices, and links to other EBD sites
4	Centre for Evidence-Based Medicine *National Health Service (UK)*	Web site	Resources which promote and provide support evidence-based health care providers, students and patients	www.cebm.net	The Centre for Evidence-based Dentistry, promote the teaching, learning, practice and evaluation of evidence-based dentistry world-wide. The Centre is the Editorial base for the Evidence-based Dentistry Journal and is one of the members of the Virtual Centre for Improving Oral Health.

Health care is witnessing an explosion of fundamental, clinical and translational research evidence. The emerging paradigm of evidence-based health care rests on the judicious integration of the patient needs/wants, the provider's expertise, and the best available research evidence in the treatment plan. The purpose of this book is to discuss the promise and the limitations of incorporating the best available evidence in clinical practice. It seeks to characterize and define how best available research evidence can be used in clinical practice and to what respect it applies to current public health issues.

DRAFT LIST for CLINICAL GUIDELINES for DENTAL PRACTICE



WG Relation Between Dental Practitioner and Universities

FDI-European Regional Organization

Published in IDJ

SCIENTIFIC RESEARCH REPORT

International Dental Journal
doi: 10.1111/idj.12160

Implementation of evidence-based dentistry into practice: analysis of awareness, perceptions and attitudes of dentists in the World Dental Federation–European Regional Organization zone through a multicentre questionnaire*

Nermin Yamalik[1,2], Secil Karakoca Nemli[3], Eunice Carrilho[4], Simona Dianiskova[5], Paulo Melo[6], Anna Lella[7], Joel Trouillet[8] and Vladimer Margvelashvili[9]

[1]Department of Periodontology, Faculty of Dentistry, University of Hacettepe, Ankara, Turkey; [2]FDI-ERO WG 'Relations Between Dental Practitioner and Universities', Bern, Switzerland; [3]Department of Prosthodontics, Faculty of Dentistry, University of Gazi, Ankara, Turkey; [4]Faculty of Medicine, University of Coimbra, Coimbra, Portugal; [5]Department of Orthodontics, Medical Faculty, Slovak Medical University, Bratislava, Slovakia; [6]Faculty of Dentistry, University of Porto, Porto, Portugal; [7]President-elect, FDI-ERO, Polish Chamber of Physicians and Dentists, Warsaw, Poland; [8]Association Dentaire Française (ADF), Paris, France; [9]Department of Dentistry and Maxillofacial Surgery, Faculty of Medicine, Tbilisi State University, Tbilisi, Georgia.

- The therapeutic decision for some clinical cases is a complex process which depends on many important factors (patient preferences, dentist knowledge and experience, etc..) but the scientific basis is indispensable.

- EBD is a tool that help clinicians on such an important decision

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- Positive attitude towards EBD
- Clear barriers to its effective implementation

Published in IDJ

SCIENTIFIC RESEARCH REPORT

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- Limited knowledge & awareness regarding EBD
- Lack of proper education on EBD
- EBD-being perceived as time consuming (Lack of time)

Implementation of EBD into clinical practice

More knowledge and familiarity with EBD and the essential elements of **finding reliable evidence** to implement in clinical practice

(E.g. building the question, selecting from among different search strategies, validating and implementing data, etc..)

ongoing

‘Model Article’ to serve as a simple demonstration for everday use

Team - Portugal, Slovakia & Turkey – drafting the article

ongoing

How to;

- ask a question

- find reliable evidence

And

- implement this evidence into daily dental practice?

1
Building the question (PICO)

2
Search strategies

3
Critical appraisal

4
Clinical implications

1
Building the question (PICO)

This question can be used

- academically in an expert review **(background question)**

or

- just to answer a question in a clinical practice **(foreground question)**

1
Building the question (PICO)

- main components of **"PICO questions"** are:

  Population (P), the patients relevant to the question
  Intervention (I), the treatment or prevention strategy or, possibly, the harmful exposure of interest
  Comparison (C), the management strategy used as a reference against which to compare the intervention
  Outcomes (O), the consequences of the intervention in which we are interested

1
Building the question (PICO)

A foreground question - Clinical question

Which loading protocol should be selected for dental impants in anterior esthetic zone in young patients?

P		
I		
C		
O		

1
Building the question (PICO)

P **Population**	**Young adults with anterior single tooth-implant**	Group of patients with the intervention

1
Building the question (PICO)

P Population	**Young adults with anterior single tooth-implant**	Group of patients with the intervention
I Intervention	**Immediate dental implant loading**	**Immediate dental implant loading**

1
Building the question (PICO)

P Population	**Young adults with anterior single tooth-implant**	Group of patients with the intervention
I Intervention	**Immediate dental implant loading**	**Immediate dental implant loading**
C Comparison	**Delayed loading**	Delayed loading

1
Building the question (PICO)

P Population	**Young adults with anterior single tooth-implant**	Group of patients with the intervention
I Intervention	**Immediate dental implant loading**	**Immediate dental implant loading**
C Comparison	**Delayed loading**	Delayed loading
O Outcome	**Success**	Success

1
Building the question (PICO)

Which loading protocol should be selected for dental impants in anterior esthetic zone in young patients?

1
Building the question (PICO)

2
Search strategies

Different search strategies of EBD, particularly for the benefit of an improved clinical decision-making.

1
Building the question (PICO)

2
Search strategies

1. Bibliographic Search Guided By Haynes 5S Pyramid Protocol

2. 5 min, 30 min and 60min search strategies (**Especially by busy clinicians**)

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The PICO question

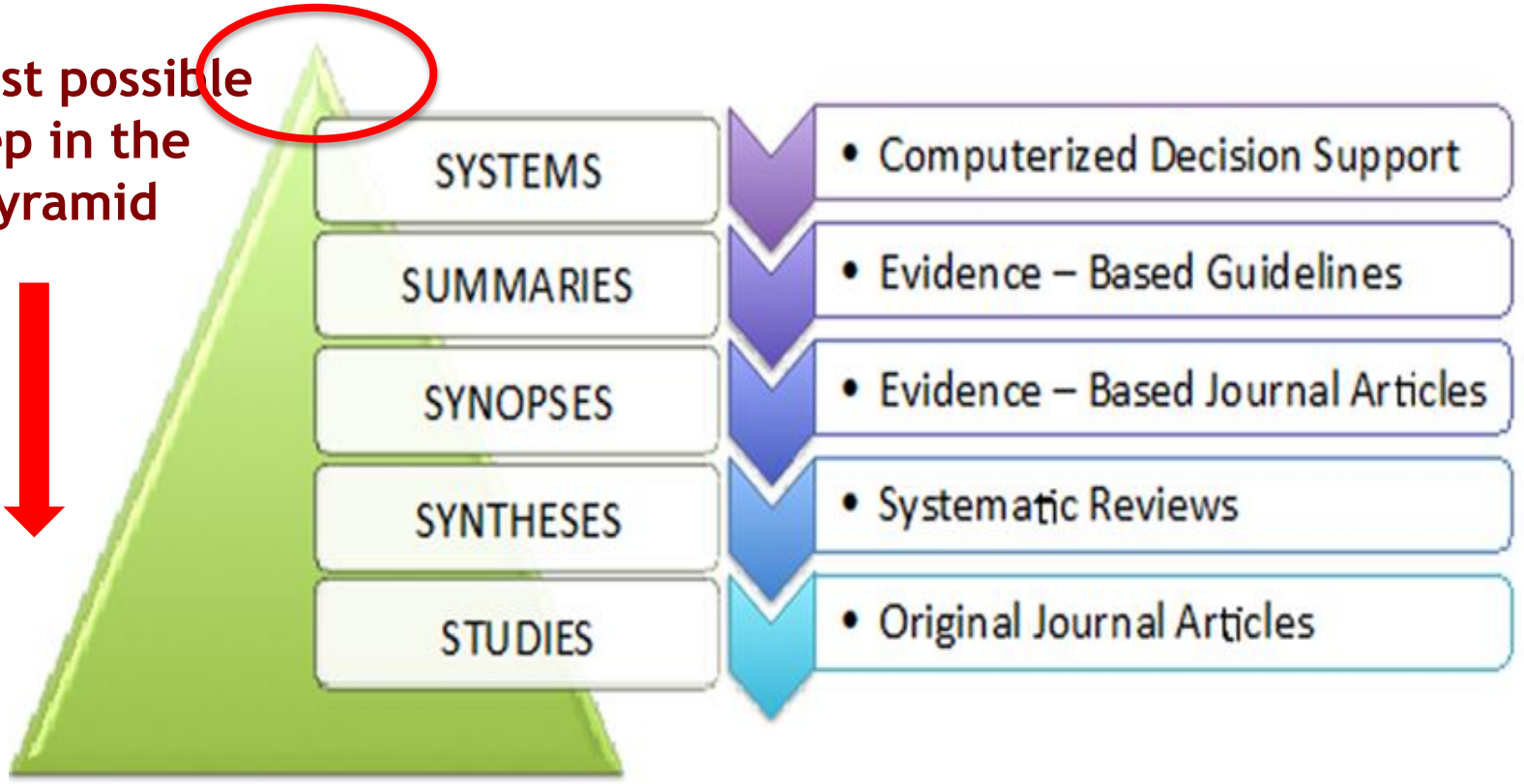
"In young adults with anterior single tooth-implant what is the effect of immediate or delayed loading on success?«

Bibliographic Search Guided By Haynes 5S Pyramid Protocol

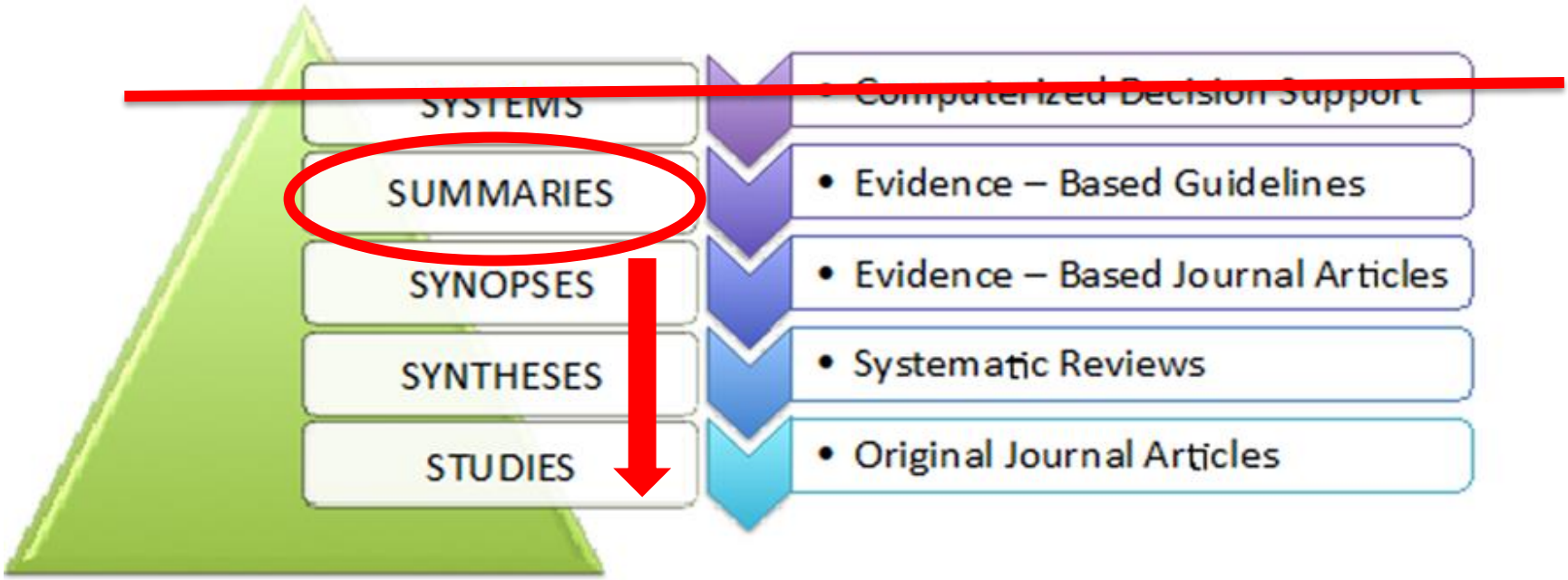
5 min, 30 min and 60min search strategies **(Especially by busy clinicians)**

Bibliographic Search Guided By Haynes 5S Pyramid Protocol

highest possible step in the pyramid



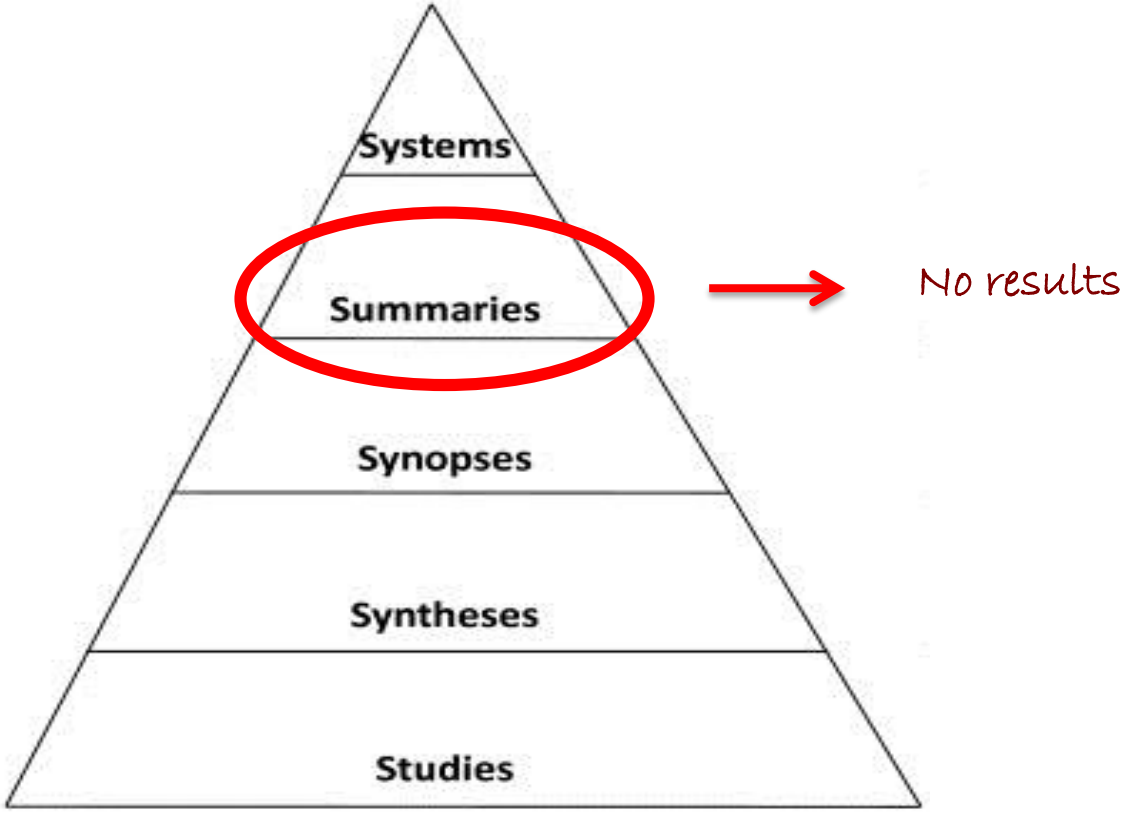
** Haynes RB. Of studies, syntheses, synopses, summaries, and systems: the "5S" evolution of information services for evidence-based healthcare decisions. Evid Based Med 2006 11: 162-164.*



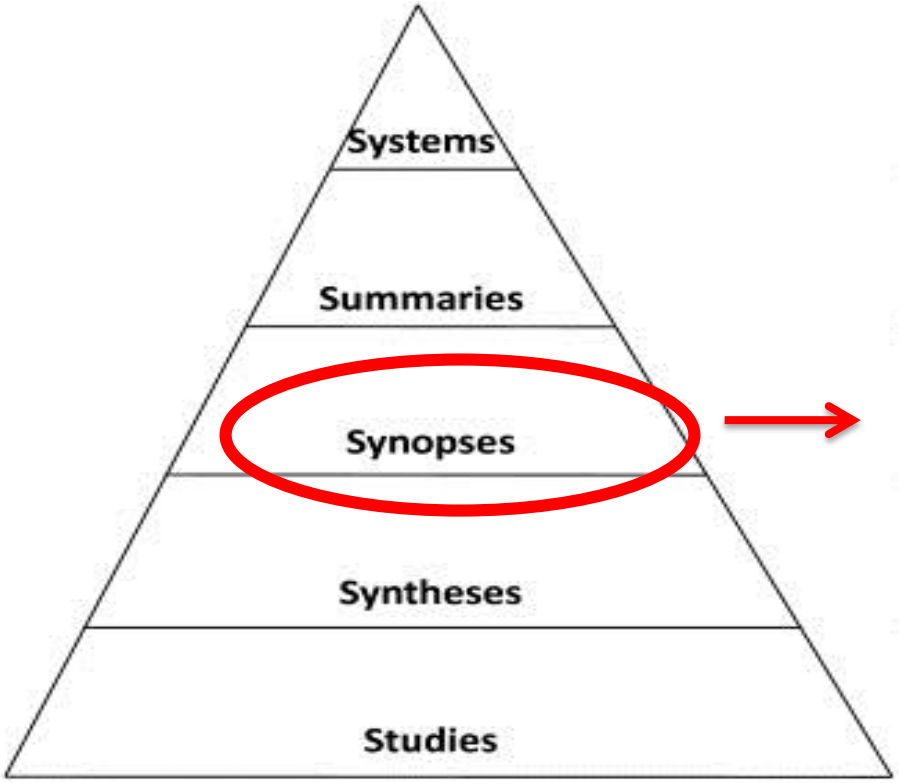
In the study, search protocol was started from the "summaries" step due to the lack of a decision support tool for computer that should be used for the "systems" step.

In this search, no specific results were detected when the keywords
"young adults with single tooth implant" and "success" AND " delayed loading" OR " early loading"
were used in any steps of the pyramid.

"anterior single tooth implant" AND "dental implants and loading"
keywords were selected for the rest of the search.



1. Clinical Evidence - www.clinical evidence.com,
2. DynaMed- evidence based content,
3. UpToDate- uptodate.com,
4. National Guideline Clearing House - guideline.gov websites



8 results

1. ACP Journal Club : No results
2. BMJ Evidence Updates websites: No results
3. Evidence Based Dentistry : 3 results
4. Journal of Evidence Based Dental Practice: 4 results
5. Essential Evidence Plus : 1 result

Evidence Based Dentistry :

1. Stafford GL . Are the outcomes of immediate and early single tooth implants comparable to conventionally placed implants?

2. Stafford GL . Different loading times for dental implants – no clinically important differences?

3. Eliyas S, Al-Khayatt AS. No difference between failure rates of early and conventionally loaded implants.

Journal of Evidence Based Dental Practice:

1.Early Survival of Single-Tooth Implants in the Esthetic Zone may be Predictable Despite Timing of Implant Placement or Loading

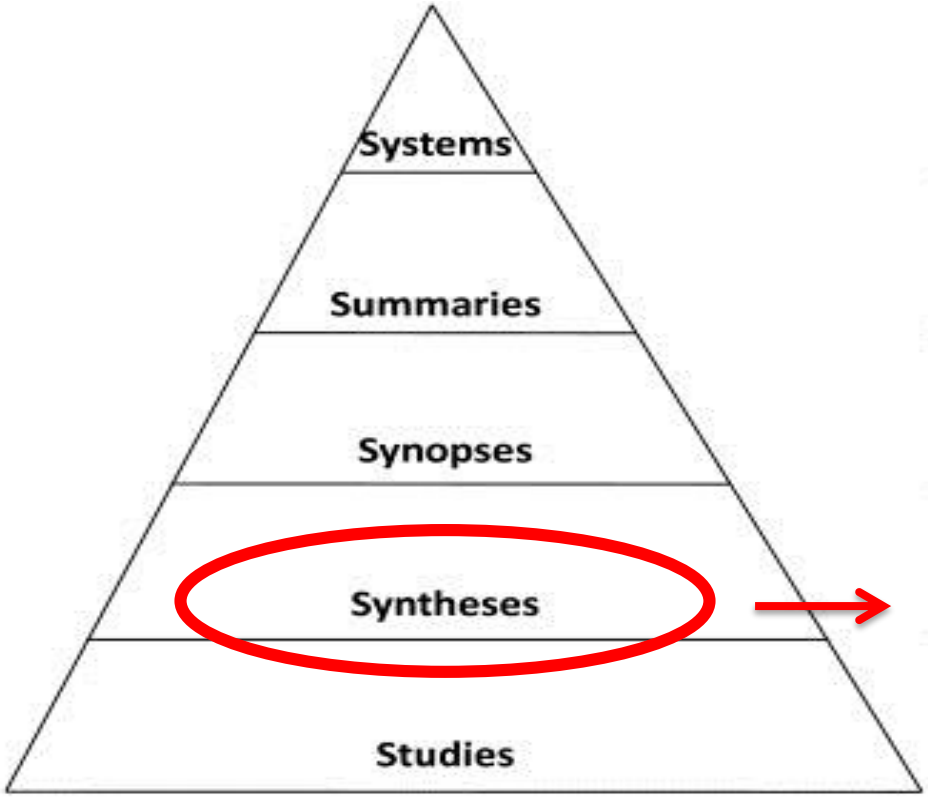
2. Knoernschild KL. Early Survival of Single-Tooth Implants in the Esthetic Zone may be Predictable Despite Timing of Implant Placement or Loading.

3. Cochran DL. The Evidence for Immediate Loading of Implants.

4. Early Survival of Single-Tooth Implants in the Esthetic Zone may be Predictable Despite Timing of Implant Placement or Loading

Essential Evidence Plus :

1. Interventions for replacing missing teeth: different times for loading dental implants. EBMG EVIDENCE SUMMARIES, 19-JAN-2010
   EBM Guidelines Last updated: 2010-01-19



1. Cochrane Database: 3 results
2. DARE: 11 results
3. PubMed: 24 results

Cochrane Database:

1. DeRouck T , Collys K and Cosyn J. Single -tooth replacement in the anterior maxilla by means of immediate implantation and provisionalization: a review . Centre for Reviews and Dissemination.

2. Esposito M, Grusovin MG, Maghaireh H, Worthington HV . Interventions for replacing missing teeth: different times for loading dental implants.

3. Esposito M, Grusovin GM, Polyzos IP, Felice P and Worthington HV. Interventions for replacing missing teeth: dental implants in fresh extraction sockets (immediate, immediate-delayed and delayed implants)

DARE

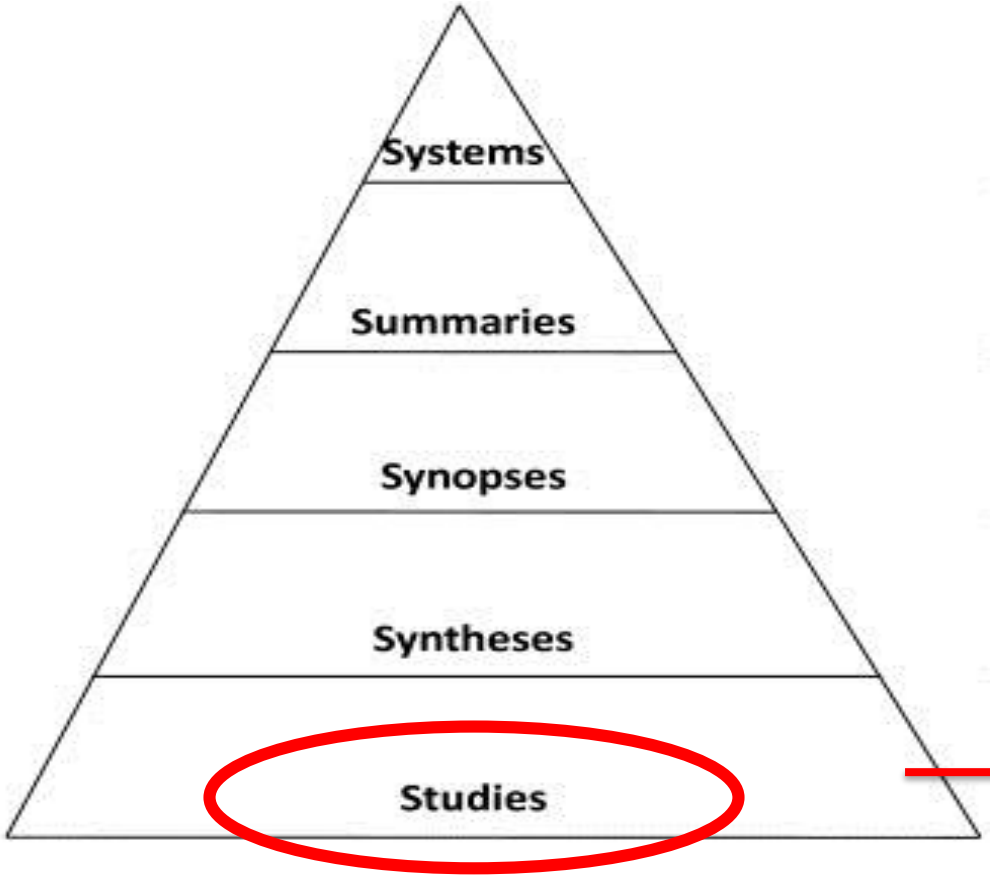
1. Implant success ratio between implant immediate loading/early loading and delayed loading: a meta-analysis.
2. A systematic review of marginal soft tissue at implants subjected to immediate loading or immediate restoration
3. Clinical efficacy of immediate implant loading protocols compared to conventional loading depending on the type of the restoration: a systematic review
4. Immediate nonfunctional versus immediate functional loading and dental implant failure rates: a systematic review and meta-analysis
5. Immediate versus early loading of flapless placed dental implants: a systematic review
6. Annual failure rates and marginal bone-level changes of immediate compared to conventional loading of dental implants. A systematic review of the literature and meta-analysis
7. Comparison of implant success rates with different loading protocols: a meta-analysis
8. Does loading time affect implant survival: a meta-analysis of 1,266 implants
9. Implant loading protocols for the partially edentulous esthetic zone
10. Loading protocols for single-implant crowns: a systematic review and meta-analysis.
11. Prognosis of immediately loaded implants and their restorations: a systematic literature review

Pubmed

1. Schrott A et al. Implant loading protocols for partially edentulous patients with extended edentulous sites--a systematic review and meta-analysis.
2. Benic GI at al. Loading protocols for single-implant crowns: a systematic review and meta-analysis.
3. Chen ST, Buser D. Esthetic outcomes following immediate and early implant placement in the anterior maxilla--a systematic review.
4.Esposito M at. al. Interventions for replacing missing teeth: different times for loading dental implants.
5.Van Dooren et al. Mechanical, biological and clinical aspects of zirconia implants.
6.Strub JR et al . Prognosis of immediately loaded implants and their restorations: a systematic literature review.
7.Suarez F et. al. Effect of the timing of restoration on implant marginal bone loss: a systematic review.
8.Ghoul WE, Chidiac JJ. Prosthetic requirements for immediate implant loading: a review
9.Chung Sat. al. Immediate loading in the maxillary arch: evidence-based guidelines to improve success rates: a review.
10.Delben JA, at. al. Planning for immediate loading of implant-supported prostheses: literature review.
11. Joshi N at. al.. Immediate loading of dental implants: review of the literature.
12. Götz W at. al. Clinical, biomechanical and biological aspects of immediately loaded dental implants: a critical review of the literature.

Pubmed (continued)

13. Romanos G et al. Survival rate of immediately vs delayed loaded implants: analysis of the current literature.
14. Grütter L, Belser UC. Implant loading protocols for the partially edentulous esthetic zone.
15. Atieh MA et al. Immediate loading with single implant crowns: a systematic review and meta-analysis.
16. Atieh MA et al. Immediate restoration/loading of immediately placed single implants: is it an effective bimodal approach?
17. Esposito M et al. Interventions for replacing missing teeth: different times for loading dental implants.
18. Sennerby L, Gottlow J. Clinical outcomes of immediate/early loading of dental implants. A literature review of recent controlled prospective clinical studies.
19. Ostman PO. Immediate/early loading of dental implants. Clinical documentation and presentation of a treatment concept.
20.Esposito M et al. The effectiveness of immediate, early, and conventional loading of dental implants: a Cochrane systematic review of randomized controlled clinical trials.
21. Schropp L, Isidor F. Timing of implant placement relative to tooth extraction.
22. Esposito M et al. Different loading strategies of dental implants: a Cochrane systematic review of randomized controlled clinical trials.
23. Avila G et al. Immediate implant loading: current status from available literature. Implant Dent. 2007 Sep;16(3):235-45. Review.
24. Cooper LF et al. The immediate loading of dental implants.



Quite a number of results

PubMed (using different filters)

PubMed:

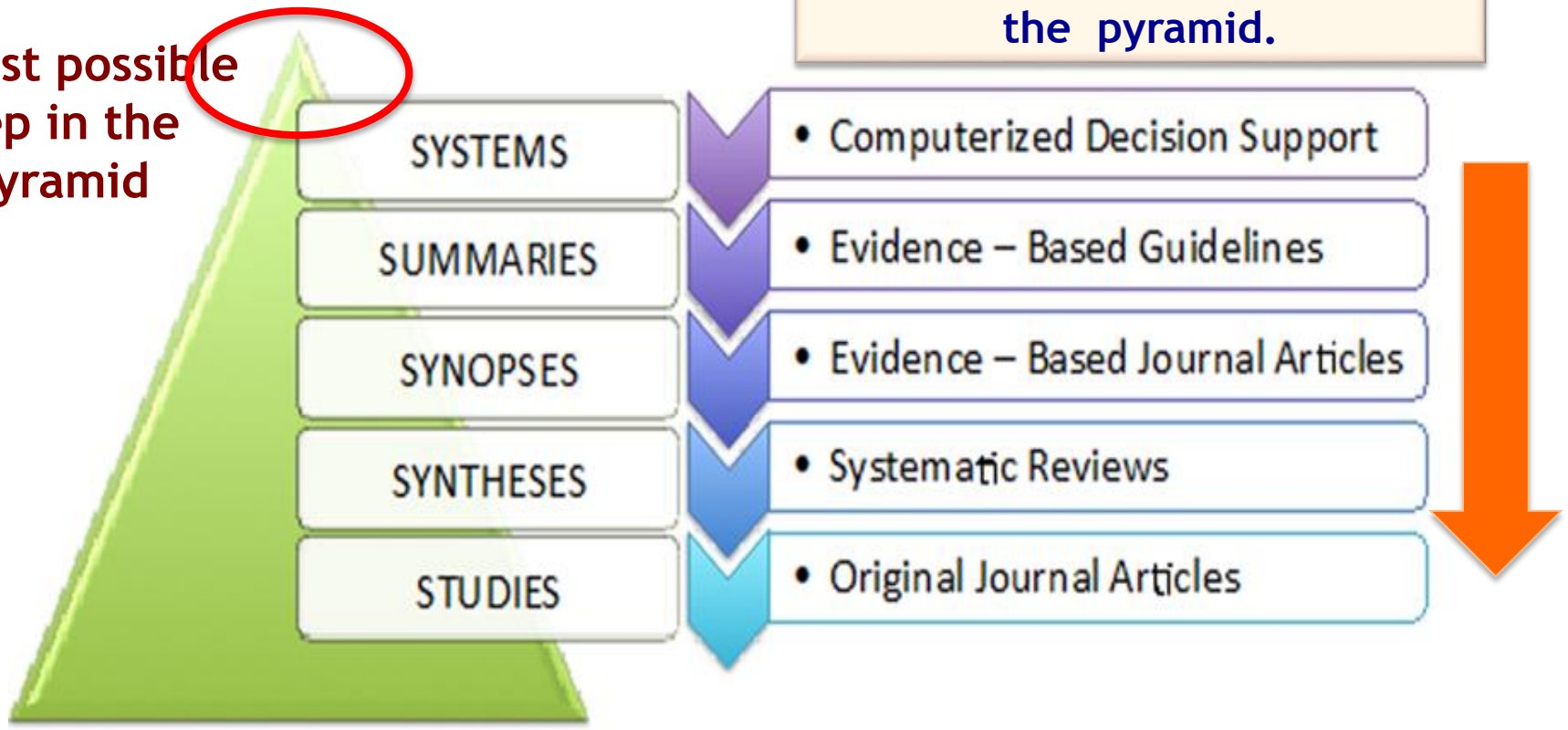
	Filters				
Keywords	No	Clinical trial	Controlled clinical trial	Publication date from 01/01/1970, Humans, In Young Adult: 19-24 years	Publication date from 01/01/1970, Humans, English
Anterior single tooth implant, loading	**128**	**30**	**6**		
Single tooth implant, loading	**516**	**137**	**15**		
Dental Implants, Single-Tooth" [MAJR] OR "previous single-tooth implant"				**177**	
Dental Implants, Single-Tooth" [MAJR]) AND "Osseointegration" [MeSH Terms]					**162**
Dental Implants, Single-Tooth" [MAJR]) AND (OR Early Delayed Loading					**52**

search

evaluation

Publications were evaluated from top of the to bottom of the pyramid.

highest possible step in the pyramid



** Haynes RB. Of studies, syntheses, synopses, summaries, and systems: the "5S" evolution of information services for evidence-based healthcare decisions. Evid Based Med 2006 11: 162-164.*

An expert opinion by Cochran stated that;

- **if the implant site has high quality and quantity of existing bone, immediate loading protocols are possible.**
- **If the implant site has low quality and quantity of native bone and augmentation procedures are required, immediate loading is more contraindicated.**

Cochran DL. The evidence for immediate loading of implants. J Evid Based Dent Pract. 2006; 6: 155-163.

A Cochrane systematic review by Esposito et al. comparing outcomes of different times for loading reveled that

- There is no significant difference between failure rates at different times of loading.
- It is possible to successfully load implants immediately or early after implant placement.
- Case selection and the degree of primary implant stability was a primary requisite for success.

Esposito M, Grusovin MG, Willings M, et al. Interventions for replacing missing teeth: different times for loading dental implants. *Cochrane Database Syst Rev.* 2007; CD003878.

The review articles and a meta analysis revealed that

- **There is no difference in implant success rates with different loading protocols.**
- **Especially for single-tooth implants, early placement and early restoration of the implants offers successful and predictable treatment modality from esthetic point of view in the anterior maxilla.**

Grutter L, Belser UC. Implant loading protocols for the partially edentulous esthetic zone. *Int J Oral Maxillofac Implants.* 2009; 24 Suppl: 169-179.

Ioannidou E and Doufexi A. Does loading time affect implant survival? A meta-analysis of 1,266 implants. *J Periodontol.* 2005; 76: 1252-1258.

Su M, Shi B, Zhu Y, *et al*. Comparison of implant success rates with different loading protocols: a meta-analysis. *Int J Oral Maxillofac Implants.* 2014; 29**:** 344-352.

Engelhardt S, Papacosta P, Rathe F, et al. Annual failure rates and marginal bone-level changes of immediate compared to conventional loading of dental implants. A systematic review of the literature and meta-analysis. Clin Oral Implants Res. 2015; 26: 671-687.

In contrast to these findings, a systematic review by Sanz-Sanchez et al. reported that

- immediate loading may impose a greater risk for implant failure when compared to conventional loading, although the survival rates were high for both groups.
- Single-tooth implants had greater risk of failure, when compared to immediately loaded full arch restorations

Sanz-Sanchez I, Sanz-Martin I, Figuero E, et al. Clinical efficacy of immediate implant loading protocols compared to conventional loading depending on the type of the restoration: a systematic review. Clin Oral Implants Res. 2014 (In Press)

Randomised controlled trials comparing immediatly and delayed loading of implants in the anterior maxilla showed that

- **Clinical outcomes with regard to implant survival and peri-implant tissue stability were not different between two loading protocol.**

Degidi M, Nardi D, Piattelli A. Immediate versus one-stage restoration of small-diameter implants for a single missing maxillary lateral incisor: a 3-year randomized clinical trial. J Periodontol. 2009; 80: 1393-1398.

Bell C, Bell RE. Immediate restoration of NobelActive implants placed into fresh extraction sites in the anterior maxilla. J Oral Implantol. 2014; 40: 455-458.

Hall JA, Payne AG, Purton DG, et al. Immediately restored, single-tapered implants in the anterior maxilla: prosthodontic and aesthetic outcomes after 1 year. Clin Implant Dent Relat Res. 2007; 9: 34-45.

Lindeboom JA, Frenken JW, Dubois L, et al. Immediate loading versus immediate provisionalization of maxillary single-tooth replacements: a prospective randomized study with BioComp implants. J Oral Maxillofac Surg. 2006; 64: 936-942.

Prospective and retrospective clinical studies evaluating outcomes of immediate loading in the anterior maxilla showed that

- **immediate loading in upper anterior single implant has successful clinical results with regard to implant survival, peri-implant bone and soft tissue stability, and esthetic results**
- **However immediate loading of single-tooth restorations should be performed when adequate primary stability achieved and patients carefully selected**

Tsirlis AT. Clinical evaluation of immediate loaded upper anterior single implants. Implant Dent. 2005; 14: 94-103.
Becker CM, Wilson TG, Jr., Jensen OT. Minimum criteria for immediate provisionalization of single-tooth dental implants in extraction sites: a 1-year retrospective study of 100 consecutive cases. J Oral Maxillofac Surg. 2011; 69: 491-497.
Siddiqui AA, O'Neal R, Nummikoski P, et al. Immediate loading of single-tooth restorations: one-year prospective results. J Oral Implantol. 2008; 34: 208-218.

A prospective case series by Ferrara et al. reported

- **The aesthetic and functional outcomes of immediately placed and restored maxillary anterior single-tooth implants were satisfactory over 4 years.**

Ferrara A, Galli C, Mauro G, et al. Immediate provisional restoration of postextraction implants for maxillary single-tooth replacement. Int J Periodontics Restorative Dent. 2006; 26: 371-377.

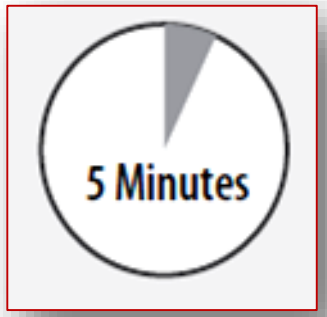
Search by 5 min, 30 min and 60min EBD-decision making strategies

According to the time spent for search, one of 3 strategies can be applied using the same question in finding evidence;

5 minutes
30 minutes
1 + hour

The three different approaches have their own advantages and limitations on reliable outcomes

What can we do in 5 minutes?



- Search **EBD.ADA.org** by topic for systematic review abstrasts with critical summaries from **Cochrane Collobration , DARE, National Library for Health**

ADVANTAGES

✓ Fast, simple and free.
✓ Requires little advanced skill

LIMITATIONS

-Requires that the topics should be well researched
- May not completely or directly answer the PICO question

What can we do in 30 minutes or less ?

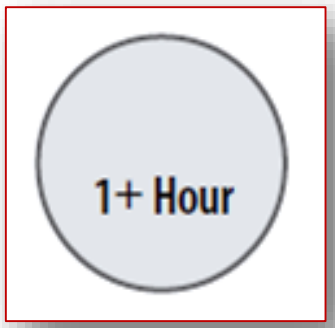
- Search **EBD.ADA.org** by topic for systematic review abstrasts with critical summaries
- Search **PubMed Clincal Queries** area for systematic reviews and randomized controlled trials

ADVANTAGES

✓ Fast, simple and may thoroughly answer your question
✓ Demands minimum time.
✓ Efficiently utilizes high quality systematic reviews and other pre-appraised evidence
✓Free or minimal cost

LIMITATIONS

-Requires some reliance on others for critical appraisal.



What can we do in 1+ hour if we have more time or would like to greatly expand your knowledge ?

Search **PubMed** Clincal Queries area for systematic reviews and randomized controlled trials, and other clinical studies of high quality (cohorts, case control)

ADVANTAGES

✓ The most through answering of your question
✓Requires no reliance on others for critical appraisal

LIMITATIONS

- May be time consuming and requires advanced skill level.
- Minimal to moderate cost

Outcomes of the search by 5 min, 30 min and 60min EBD-decision making strategies

Keywords: "anterior single tooth implant" and "dental implants and loading"		
5 min	Cochrane	3 systematic reviews (abstracts were evaluated)
	DARE	11 systematic reviews (abstracts were evaluated)
	PubMed	24 systematic reviews (abstracts were evaluated)
30 min or less	Journal of Evidence Based Dental Practice (jebdp.com)	3 critical summaries
	Evidence Based Dentistry (nature.com)	4 critical summaries
	PubMed (systematic reviews and randomized controlled studies)	24 systematic reviews and 15 controlled clinical studies
1+ hour	systematic review in PubMed	Similiar to Table 3
	randomized controlled studies in PubMed	
	Other high quality studies in PubMed	

Outcomes of Pubmed search

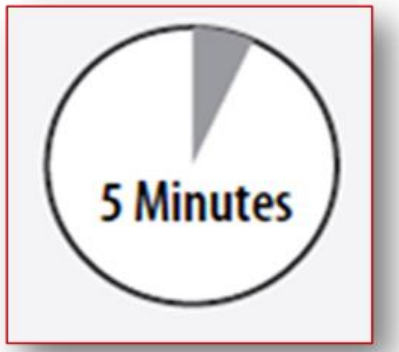
	Type of study		Population	Summary
Degidi et al. [36]	RCT	immediately and one stage loaded small diameter implants for single maxillary lateral incisor	60 patients	No statistically significant difference was found between immediately and one-stage restored small-diameter implants with regard to implant survival, mean marginal bone loss, and probing depth
Tsirlis [37]	RCT	immediate loaded upper anterior single implants in cases of immediate and late implant placement	43 single implants inserted in 38 patients (20 to 60 years of age)	The author advocated immediate loading in upper anterior single implant, both immediate and late implant placement procedures, in cases where adequate initial implant stability was established.
Lorenzoni et al. [38]	RCT	outcomes of immediately loaded implants 12 months after placement in	12 patients (mean age 51.8 ± 9.5 years; between 19 and 71).	Immediate loading of single-tooth implants in the anterior maxilla can result in successful treatment outcomes in terms of implant survival, stability and peri-implant tissue stability.
Bell and Bell [39]	RCT	compared immediate and delayed restoration of implants placed into fresh extraction sites in the anterior maxilla requiring single-tooth replacement	The mean ages of the patients for two groups were more than 55 years	implant survival, satisfactory esthetic and functional outcomes as maintained gingival margins and papillary levels, and high torque values were obtained by immediate restoration of implants.
Becker et al. [40]	retrospective study	analyzed 100 immediate placed and restorated dental implants at 1 year follow-up	100 immediate placed and restorated dental implants (80 in the anterior maxilla and 20 in mandible)	They reported one implant failure, all other implants maintained osseointegration and any significant prosthetic or surgical complication noted
Den Hartog et al. [41]	RCT	compare the outcome of immediate non-occlusal loading with conventional loading for single implants in the maxillary esthetic zone	A total of 62 patients with a missing maxillary anterior tooth, 31 in conventional loading group and 31 in immediate loading group	Immediate non-occlusal loading, which reduces the treatment time and could offer more comfort for the patient, is not less favorable than conventional loading for single implant in the maxillary esthetic zone

Outcomes of Pubmed search

Hall et al. [42]	**RCT**	**compared prosthodontic conventional restoration with the outcomes of immediate restoration of single implants placed in the anterior maxilla during one year follow-up.**	**Twenty-eight implants in 28 participants (14 in conventional loading group and 14 in immediate loading group) with a mean age of 43.3 years**	**No significant differences in the implant success rate (as determined by radiographic bone loss and stability tests), prosthodontic maintenance, peri-implant mucosal response, and papilla index between the two groups over 1 year.**
Siddiqui et al. [43]	RCT	to evaluate immediate full-occlusal loading of single tooth implants	Sixty consecutive patients with one missing tooth between two intact teeth were treated with a total of 69 implants.	Immediate full-occlusal loading of single-tooth restorations was safely performed in selected patients when good primary stability and an appropriate loading were achieved. However, heterogeneity of implant locations of this study (only 13.7% in anterior maxilla) should be taken into consideration when interpreting results for our PICO question.
Lindeboom et al. [44]	RCT	compared immediately loaded with immediately provisionalized single-tooth implants in the anterior maxilla.	50 implants were placed and immediately restorated with provisionals (25 were in occlusion and 25 were nonoccluding)	Clinical outcomes of immediately restorated single-tooth implants with occluding and nonoccluding provisionals were not different
Ferrara et al. [45]	prospective case series	the outcomes of 33 immediately placed and provisionalized maxillary single-tooth implants over a 4-year observation period		Concluded that the aesthetic and functional results of immediately placed and restored maxillary anterior single-tooth implants were satisfactory.
Donati et al. [46]	RCT	evaluate the outcome of immediate functional loading of implants in single-tooth replacement using two different installation procedures.	One hundred and fifty-one subjects, who required single-tooth rehabilitation in the area of 15–25 and 35–45, were enrolled to the study	They suggested that immediate functional loading of implants with sufficient primary stability may be considered as a valid treatment alternative in a single-tooth replacement.
Zafiropoulos et al. 47	Retrospective clinical study	The 5-year survival rates of two different implant systems either immediate or delayed loading were investigated.	Evaluates 241 single implants in 241 patients	reported that immediately placed and provisionally restorated implants had similar implant success rates with conventionally loaded implants placed in different regions of the mouth.

Outcomes of Pubmed search

Shibly et al 48	**RCT**	**the effect of transmucosal healing and immediate loading on bone regeneration were studied.**		**reported that immediately placed and provisionally restorated implants had similar implant success rates with conventionally loaded implants placed in different regions of the mouth [47, 48].**
Zhou et al. [49]	prospective clinical study	evaluated immediately and delayed loaded implants in anterior region	60 patients (25-90 years)	They reported that implant stability was different for immediately and delayed loaded implants at different measurement times indicating differences in osseointegration process between groups. Implant stability also changed according to bone type. Evaluating this study for the current PICO question, placement of implants in both maxillary and mandibular edentulous spaces for single -tooth loss should be taken into consideration.
Ostman et al. 50	prospective observational study	evaluated immediately provisionalized implants with a specified surface topography in support of single-tooth and fixed partial restorations	One hundred eighty-five patients enrolled at 15 international study centers received a total of 335 implants.	They reported 94.9% cumulative survival rate after 1 year.
Bilhan et al. [51]	case series	reported on three cases of immediate loading with up to 30 months of clinical follow-up		They suggest that good clinical results can be achieved in immediate loading or immediate implantation combined with immediate loading with appropriate indication, planning, and surgical techniques



In **5** minutes search strategy = **48** results

Key words: **“anterior single tooth implant”** and **“dental implants and loading”**

Cochrane Database: 3 results

DARE: 11 results

PubMed (with systematic review filter): 24 results

Abstracts of these systematic reviews were evaluated

In **30** minutes or less search strategy = **50** results

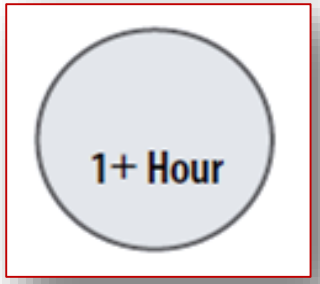
Search expanded including the '5 minutes strategy' plus

The Journal of Evidence Based Dental Practice : 3 results

Evidence Based Dentistry for critical summaries: 4 results

PubMed (systematic reviews and randomized controlled studies):

24 systematic and 15 controlled clinical trials.



In more than **1 hour** search strategy = **quite a number of** results

comprehensive search in Pubmed (systematic reviews, randomized controlled studies and other high quality studies)

	Filters				
Keywords	No	Clinical trial	Controlled clinical trial	Publication date from 01/01/1970, Humans, In Young Adult: 19-24 years	Publication date from 01/01/1970, Humans, English
Anterior single tooth implant, loading	**128**	**30**	**6**		
Single tooth implant, loading	**516**	**137**	**15**		
Dental Implants, Single-Tooth" [MAJR] OR "previous single-tooth implant"				**177**	
Dental Implants, Single-Tooth" [MAJR]) AND "Osseointegration" [MeSH Terms]					**162**
Dental Implants, Single-Tooth" [MAJR]) AND (OR Early Delayed Loading					**52**

In the 5 minutes strategy,

- Evidence on immediately loaded implants in the anterior maxilla is absent.
- According to this fast and simple search results, immediately loaded implants had similar success rates with conventionally loaded implants .
- Single-tooth implants may impose greater risk for implant failure when compared to immediately loaded full arch restorations.

In 30 minutes or less search strategy,

- Critical summaries revealed promising short-term results for immediate, early and conventional single-implants in the aesthetic zone. Hovewer patient selection is important for success of immediate loading

- Clinical trials revealed that immediate loading of single-tooth implants, including anterior maxilla, is as successful as conventional loading in selected patients. However, current evidence is based on small sample size and short follow-up duration for this population.

In more than 1 hour strategy

- **Careful case selection and adequate primary implant stability are prequisites for successful immediate loading**
- **Other factors such as the implant surface characteristics and occlusion, are also important for success of immediate loading.**
- **Greater risk of failure for immediately loaded single-tooth implants were reported when compared to full arch restorations**

In more than 1 hour strategy

- The application of a nonoccluding provisionals restoration within 48 hours of implant placement is advocated
- The use of removable occlusal splints for 6-8 weeks after immediate restoration of maxillary anterior single implants was advocated to protect provisionals against occlusal loading and to avoid any pressure exerted by tongue
- For immediate full occlusal loading of single-tooth restorations, favorable results were reported in short term when good primary stability and appropriate occlusal load was achieved in selected patients.

- EBD may be perceived as time-consuming by some clinicians.
- However, different time-dependent search strategies may be preferred when time is limited and may enable EBD to be implemented into daily practice by busy clinicians.
- Thus, the familiarity of dental practitioners with such different search strategies may need to be further improved.

CONCLUSION

CONCLUSION
Not a Decision

CONCLUSION
Not a Decision

- patient preferences
- dentists's knowledge & experience

- High degree of primary implant stability, the implant surface characteristics and bone quality appears to be some of the prerequisites for a successful immediate/early loading procedure.
- Other factors such occluding and non-occluding provisionals don't seem to interfere in the final outcome.
- There is no conclusive evidence that immediate functional loading implants may be considered as a valid treatment alternative to conventional loading in a single-tooth replacement.

- Notwithstanding limitations, promising results of immediate and conventional anterior single implant are clear.

- However, further investigations with more controlled randomised trials are required to avoid bias and to set up a strong treatment strategy.

1
Building the question (PICO)

2
Search strategies

3
Critical appraisal

4
Clinical implications

CLINICAL IMPLICATIONS

- It is possible to load immediately single-tooth dental implants successfully in maxillary anterior region in selected patients, though not all clinicians may achieve optimal results.
- There are tools that allow EBD to be implemented into daily practice even by busy clinicians.

CLINICAL IMPLICATIONS
Decision

- **Evidence**
- **Patient preference**
- **Dentist's experience and knowledge**

Personal Decision

- Be careful with immediate loading
- Especially with single-tooth implants (greater risk for failure)
- Take into consideration the natural bone quality
- Take into consideration primary stability (high quality primary stability)
- Take into consideration the need for any augmentation procedure
- Consider implant surface characteristics (to a lesser extent)
- Consider using nonoccluding provisional restorations
- Be careful with case selection (evaluate each patient individually)

Ongoing
Plan to finish in 4-6 weeks

‘Model Article’ to serve as a simple demonstration for everday use

Team - Portugal, Slovakia & Turkey – drafting the article

Presentation layout

1. Developing resources for clinical practice

a. Model list for practical resources EBD - provided
b. Draft list of clinical guidelines for dental practice - provided
c. EBD article in IDC - published
d. Model article - How to ask a question and find evidence? - ongoing

2. Attitudes towards clinical guidelines for dental practice

Survey (How are clinical guidelines perceived?) - ongoing

3. Relationship between ERO and ADEE

2. Clinical guidelines for dental practice

Survey on perceptions and attitudes of dentists in the ERO-zone regarding clinical guidelines

Clinical guidelines

Are they;

1. Available
2. Reliable
3. Up-to-date
4. Applicable
5. Beneficial

Attitudes and perceptions of dentists in the ERO-zone regarding dental clinical guidelines

Ongoing

Country	Participants
Georgia	93
Italy - ANDI	103
Portugal	261
Russia	107
Switzerland	50
Turkey	296

910

Presentation layout

1. Developing resources for clinical practice

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Survey (How are clinical guidelines perceived?) - ongoing

3. Relationship between ERO and ADEE Presentation layout

3. Professional Collaboration Between ERO & ADEE

1. **Formal & written communication** between ERO & ADEE Presidents
2. **Positive attitude** towards professional collaboration and working together
3. Professor Nermin Yamalik – appointed as the **Liasion person** between ERO & ADEE
4. **Current discussion** - to start identifying priority areas suitable for collaboration and working together based on the mutual interests of both professional bodies

Possible next steps

- **ERO Board** may suggest priority areas for collaboration
- **ERO WGs** may suggest priority areas for collaboration
- **ERO Plenary** may suggest priority areas for collaboration

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- **ERO Board** may suggest priority areas for collaboration
- **ERO WGs** may suggest priority areas for collaboration
- **ERO Plenary** may suggest priority areas for collaboration

ERO Secretariat may formally communicate and ask for written proposals from The Board, WGs and member NDAs

Possible next steps

- **ERO Board** may suggest priority areas for collaboration
- **ERO WGs** may suggest priority areas for collaboration
- **ERO Plenary** may suggest priority areas for collaboration

ERO Secretariat may formally communicate and ask for written proposals from The Board, WGs and member NDAs

Formally share with ADEE

Possible next steps

ERO WGs may also briefly summarize their projects as a report and we can send them to ADEE

A potential priority /future project ?

1. Clinical dental guidelines

ADEE and FDI may work together and provide a joint opinion?

A potential priority /future project ?

2. A look at the competencies for today and future's dentists

As ERO we may wish to consider developing an opinion by a joint work of all our WGs and provide feedback for ADEE.

Thank to **ERO Board** for the task of ‘Liasion person’ between ERO and ADEE.

Thank to **Assoc.Professor Secil Karakoca Nemli** for her kind contribution for this presentation..

Thank to our **outside experts** for their active contribution.

Professor Eunice Carrilho

Assoc.Professor Secil Karakoca Nemli

Assoc.Professor Guliz N. Guncu

Thank to **my colleagues in the WG** for their active contribution and their continous support.

Edoardo Cavalle
Elena Kıseleva
Elena Volodina
Gohar Gevorgyan
Jean-Patrick Druo
Patrick Hescot
Paulo Melo
Rena Aliyeva
Simona Dianiskova
Sona Hambardzumyan
Vjeko Jerolimov
Vladimer Margvelashvili

Thank to Anna Lella - **Supervisor of our WG** - for her continous support.

Thank you