



Dr. Nikos Mattheos
DDS, MASc, PhD



Lecture notes:

Success and Failure in implant dentistry: through the eyes of the patient!.

- Patient Reported Outcomes/ Patient Reported Experience
- Patient Satisfaction and Psychological Traits
- Diagnosing and managing misperceptions and expectations

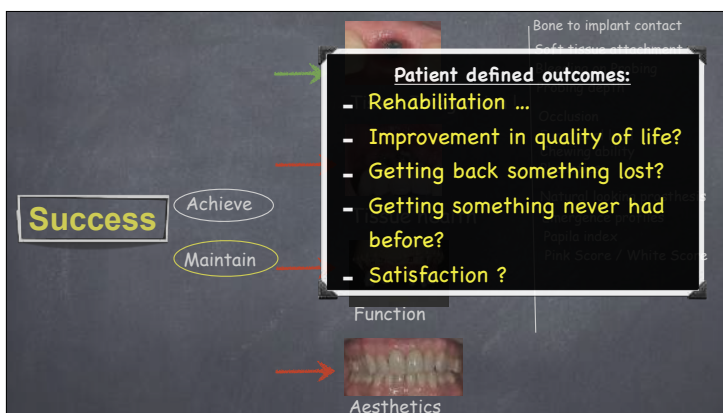
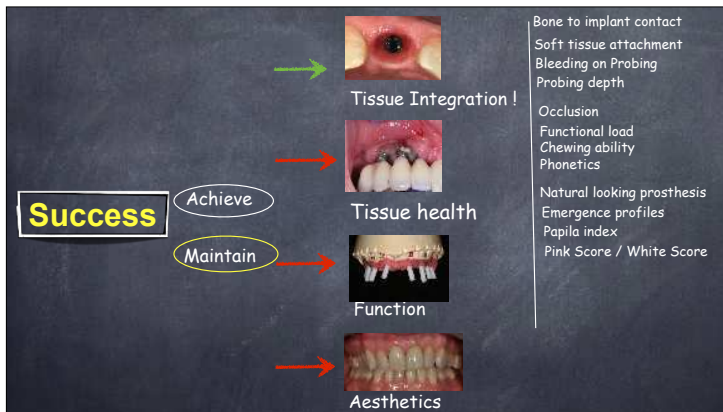
Learning objectives:

- What are the main determinants of patient satisfaction from Implant therapy and which psychological traits and conditions can interfere with our treatment?
- How can PRO and PRE help us understand patient's needs and priorities and how to apply these in the case of edentulous patients who seek implant treatment?
- How do patients develop expectations? What is the role of the social environment or internet in shaping their beliefs? Can we diagnose misperceptions and manage them properly prior to implant therapy?

Based on the presentations in Stockholm, Malmö in October 2022. The content of these notes is not self- explanatory and is not intended as an independent learning resource but rather a supplement to attending the seminars.



Emergency room, 1.30 am



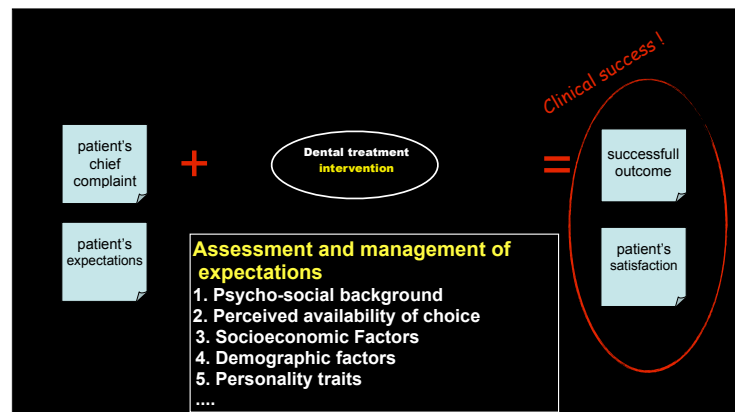
Discrepancies between self-ratings of satisfaction with oral health in two older adult populations.

Locker D, Gibson B.
Community Dent Oral Epidemiol 2005; 33: 280-8.

10% with favourable oral health ratings : **dissatisfied**

50% with unfavourable ratings : **satisfied**

Type:	Cross sectional survey with random sample
Sample:	225 + 541 (>50 yrs)
Instrument:	OHRQoL questionnaires Clinical examination



Patient **R**eported **O**utcomes
Patient **R**eported **E**xperience



Patient Reported Outcomes

- ☒ Oral Health Related Quality of life (OHIP 49, 14, 20, edent)
- ☒ Oral Impact on daily performance
- ☒ Global Oral Satisfaction
- ☒ General Oral Health Assessment index

Patient Reported Experience

- ☒ Procedures
- ☒ Communication
- ☒ Trust
- ☒ Healing events:
 - pain
 - swelling
 - bleeding
 - discomfort
 - painkiller consumption

Rehabilitation : Edentulous patient



A longitudinal study of quality of life outcomes in older adults requesting implant prostheses and complete removable dentures.

Allen PF, Mc Millan A
Clin Oral Implants Res. 2003 Apr;14(2):173-9.

Type:	Prospective clinical trial
Sample:	103 edentulous patients
Instrument:	OHIP quationnaires

4 groups:

- Requested implants – got implants
- Requested dentures – got dentures
- Requested implants – got dentures
- Control group – dentate subjects receiving other treatments

A longitudinal study of quality of life outcomes in older adults requesting implant prostheses and complete removable dentures.

Allen PF, Mc Millan A
Clin Oral Implants Res. 2003 Apr;14(2):173-9.

4 groups:

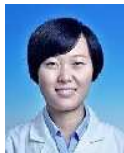
a. Requested implants – got implants



Removable (IOD) - Fixed (IFCD)



Dr. Coral Yao
HKU



Dr. Cong Cao
CJF Hospital,
Beijing



Prof. Bornstein
HKU



Dr. Mattheos
HKU

Comparing patient reported outcomes from edentulous patients with implant supported fixed and removable dental prosthesis. A systematic Review

Yao J, Cong C, Bornstein M, Mattheos N.
Clin Oral Impl Res. 2018

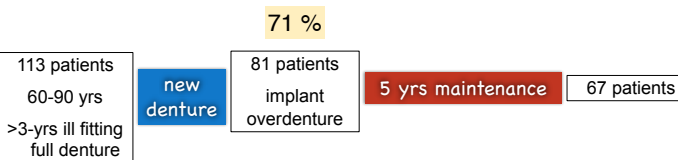
14 comparative studies:

	FDP +	IOD +	No difference
Function	3/11		8/11
Phonetics		1/11	9/10
Aesthetics	1/7		6/7
Overall Satisfaction	4/9	1/9	4/9
Oral Hygiene		5/5	

Oh et al. 2016
De Souza et al. 2016
De kok et al. 2011
Martinez et al. 2013
Martin-Ares et al. 2015
Brennan et al. 2010
Katsoulis et al. 2011
Quirynen et al. 2005
Zitzmann et al. 2000
Heydecke et al. 2003/2004
De Grandmont et al. 1994
Feine et al. 1994

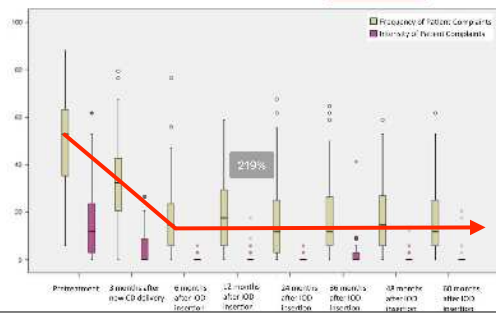
Patient-reported outcome measures (PROMs) and maintenance events in 2-implant-supported mandibular overdenture patients: A 5-year prospective study implant prostheses and complete removable dentures.

Zhang Y, Chow L, Siu A, Fokas G, Chow TW, Mattheos N.
Clin Oral Implants Res. 2019: 1-16.

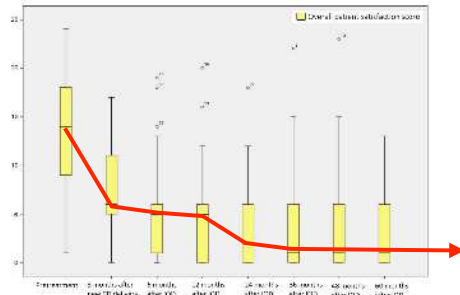


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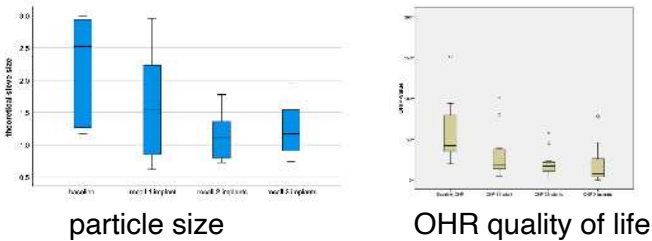
Influence of the number of implants in the edentulous mandible on chewing efficacy and oral health-related quality of life—A within-subject design study
Passia et al .
Clin Oral Impl Res. 2022;33:1030–1037.

13 patients, 39 implants



Influence of the number of implants in the edentulous mandible on chewing efficacy and oral health-related quality of life—A within-subject design study
Passia et al .
Clin Oral Impl Res. 2022;33:1030–1037.

13 patients, 39 implants





Patient-centred implant dentistry:

✓ Checkpoint !

✓ Patients' satisfaction with the treatment **does not** only depend on the **clinical outcomes** of our treatment.

✓ Patient's **expectations, perceptions and psychosocial background** seriously affect their final satisfaction with rehabilitation.

✓ A complete assessment of patient **expectations** and psychosocial background is necessary procedure.



How expectations are formed :

Dreams



EXPECTATION



REALITY

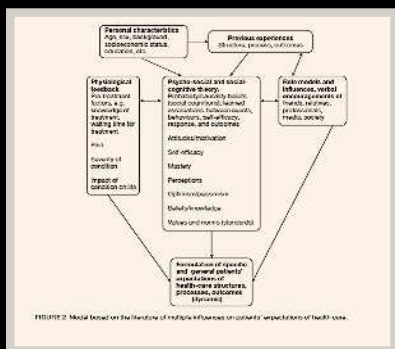
Reality

WHEN I ORDER WINE AT A RESTAURANT

How expectations are formed (PEHC):



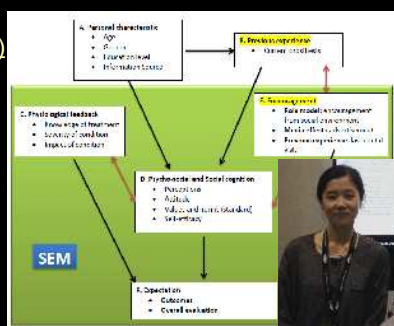
Ann Bowling
Professor of Health Sciences
2012



The measurement of patients' expectations for health care: a review and psychometric testing of a measure of patients' expectations. Ann Bowling et al. Health Technology Assessment 2012;Vol. 16;No. 30

How expectations (related to Implant Treatment) are formed :

- Personal characteristics
- Previous experiences
- Knowledge, Attitudes
- Perceptions, Values, Beliefs
- Raw models, social environment



Yao J, McGrath C, Gao XL, N. Mattheos. Development of an Instrument to Assess Patients' Expectations of Dental Implants. 2015 in press

Holistic Patient Assessment

- ☒ Chief Complaint
- ☒ Medical History
- ☒ Dental History
- ☒ Expectations, Perceptions

statements:

- Dental implants are a well tested and documented treatment for replacement of missing teeth.
I disagree _____ I agree
- Treatments with Dental Implants have no risks or complications.
I disagree _____ I agree
- Dental implants are as functional as natural teeth.
I disagree _____ I agree
- Dental implants look as nice as natural teeth.
I disagree _____ I agree
- Dental implants require less care than natural teeth.
I disagree _____ I agree
- Dental implants last longer than natural teeth.
I disagree _____ I agree
- Dental implants is a treatment appropriate for everyone.
I disagree _____ I agree

Yao J, C. McGrath, Gao XL, N. Mattheos. Patients' Expectations of Dental Implants prior to consultation with the dentist. COIR 2017

Questionnaire part 1 (Pre-treatment)

PLEASE ANSWER

Abstract

Development of an Instrument to Assess Patients' Expectations of Dental Implants

Faculty of Dentistry

Questionnaire part 2 (Post-treatment)

PLEASE ANSWER

Abstract

Development of an Instrument to Assess Patients' Expectations of Dental Implants

Faculty of Dentistry

34 fields:

- ✓ demographics
- ✓ attitudes / perceptions
- ✓ expectations



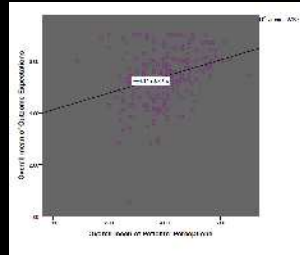
What do patients expect from treatment with dental implants Perceptions, expectations and misconceptions. A multicenter study. J Yao, M Li, H Tang, PL Wang, YX Zhao, C McGrath, N Mattheos, COIR 2017	
	Agreed
✓ "Dental Implants Require less care than natural teeth"	35 %
✓ "Dental Implants last longer than natural teeth"	37.5 %
✓ "Treatments with Dental Implants have no risks or complications"	47 %
✓ "Dental Implants are as functional as natural teeth"	48 %

Pre-treatment

What do patients expect from treatment with dental implants Perceptions, expectations and misconceptions. A multicenter study.

J Yao, M Li, H Tang, PL Wang, YX Zhao, C McGrath, N Mattheos, COIR 2017

- ✓ Education ↓
- ✓ Age ↑
- ✓ Geography: Hong Kong ↑
- ✓ Social Circle ↑



What is the **main** source of information?

36-63 %

The Dentist

- 42 % (Yao et al 1017)
- 41 % (Rustemeyer)
- 36 % (Kaptein)
- 63 % (Simensen 2015)

Yao J, McGrath C, Gao XL, N. Mattheos. Development of an Instrument to Assess Patients' Expectations of Dental Implants. COIR 2015

What is the **main** source of information?

12-52 %

Friends
Social Circle

The Dentist

- 25 % (Yao et al 1017)
- 52 % (Kaptein)
- 12 % (Simensen 2015)

Yao J, McGrath C, Gao XL, N. Mattheos. Development of an Instrument to Assess Patients' Expectations of Dental Implants. COIR 2015

What is the main source of information?

10-45 %

Internet

Friends
Social Circle

The Dentist

45% (Hu et al 2009)

14 % (Yao et al 2017)

13 % (Rustemeyer)

10-14 % (Simensen 2015)

Yao J, McGrath C, Gao XL, N. Mattheos. Development of an Instrument to Assess Patients' Expectations of Dental Implants. COIR 2015

On the internet implants are "aesthetic", "beautiful",



Younger

Aesthetic focus

Body parts focus

Novelty

Highly successful and aesthetically pleasant

Kashbouri et al, Clin Oral Impl Res. 2018;29:309-319.

The Unhappy Patient:

Body Dysmorphic Disorder

- ☑ preoccupation with an imagined defect or flaw in physical appearance
- ☑ repetitive behaviours, distress, impairment
- ☑ Nose, Skin, Teeth, Muscles

Epidemiology

- 0.7 – 3.2% prevalence (1:50)
- More than 10 % in cosmetic-related



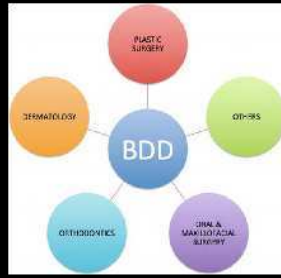
The Unhappy Patient, EAO 2022 Geneva

The Unhappy Patient:

Body Dysmorphic Disorder

Comorbid conditions:

- Depression
- Substance misuse
- Social phobia
- OCD
- Suicidality very high
- Delusions



The Unhappy Patient, EAO 2022 Geneva

The Unhappy Patient:

Body Dysmorphic Disorder

How do you recognize BDD?

-Awareness!

Questions:

- Do you feel concerned about your appearance?
- How much time do you spend worrying?
- How have you been affected?
- Questionnaires



The Unhappy Patient, EAO 2022 Geneva

The Unhappy Patient:

Body Dysmorphic Disorder

Approach:

(from Body Dysmorphic Disorder Foundation)

Not helpful for BDD:

- Repeated reassurance
- Cosmetic or surgical procedures
- Minimising
- Calling crazy or narcissistic
- Treatment as psychosis

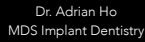
"it's fine, you look great!"

"it's just in your mind!"

"this is something you have to accept"

"there seems to be a difference between the way you feel about your appearance and what others say"

The Unhappy Patient, EAO 2022 Geneva



You Tube

- To determine the educational value of YouTube patient testimonials on Implant Dentistry
- To investigate their potential for misleading statements
- To provide patients and clinicians with salient advice on the topic

[illegible]


Ho Adrian, C. McGrath, Gao XL, N. Mattheos. Assessing the quality of patient testimonials from Implant Treatments on YouTube. Clin Oral Impl Res 2016

30 fields

www.eao.org/patients

Field	Value
1	
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EAO:
56 essential facts
about implants



↓

30 fields

Material and Methods

Field	Value
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- 30 informative points (presence)
- misleading points
- emerging themes, production characteristics,

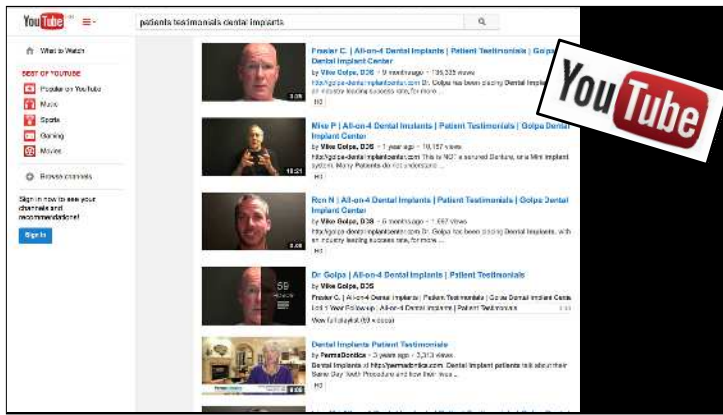
Material and Methods

Field	Value
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Systematic Review Methodology

Inclusion - Exclusion Criteria
Sorted by "Relevance"
Sampling consecutive videos
URLs saved
matrix / production characteristics
4 calibrated examiners
Conduct common set of 15 videos

270 videos



Results:

Video Characteristics:

Range of upload	March 2000 - July 2014					
Mean length of video	2:33					
Highest available quality	144p	240p	360p	480p	720p	1080p
	0.2%	6.8%	5.9%	21.7%	30.2%	35.2%

Mean Views	4,767	
Mean No. of Likes	55	
Mean No. of Dislikes	1.6	
Mean No. of Comments	1.2	(94% Deleted)

Originating from specific Clinician/Practice	Yes	No
	88.1%	11.9%
No. of patients interviewed	241	

- good to moderate interexaminer reliability
- excellent intra-examiner reliability
- 1 video produced/uploaded by the patient
- 5% very unlikely produced by the patient
- 95% not produced by the patient

Mean informative points /video

1.83 / 30

range 0-11

Mean misleading points /video

0.5

No correlation between ranking, likes, views and informative value

Results:

Top 3 Informative Categories:

1. Potential to improve aesthetics (54.1%)
2. Potential to improve function (37.6%)
3. Relative advantages/disadvantages of alternative options (18.3%)

Results:

Prevalent potentially misleading themes:



	J Yao et al, COIR 2017	P. Vipattanaporn et al, submitted 2018
	Pre-treatment	Post-treatment (short term)
<input checked="" type="checkbox"/> "less care than natural teeth"	35 %	18 %
<input checked="" type="checkbox"/> "last longer than natural teeth"	37 %	35 %

Implants last for a lifetime:

Hof, Markus, 2012;	59%
Pommer, 2011;	24%
Tepper, 2003	34%
Johannsen, A. 2012	100%

Provision of information to patients:

8 clinicians interviewed in UK:



Provision of information to patients on dental implant treatment: Clinicians' perspectives on the current approaches and future strategies

Wafa A. Kashbour^{a,*}, Nikkî S. Rousseau^b, J. Mark Thomason^a, Janice S. Ellis^a

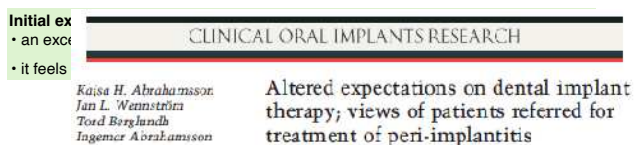
^aSchool of Dental Science, Newcastle University, Newcastle Upon Tyne, NE2 4BQ, United Kingdom
^bDepartment of Health and Society, Newcastle University, Newcastle Upon Tyne, NE2 4BA, United Kingdom



W.A. Kashbour et al. / Journal of Dentistry 76 (2018) 117–124

Altered expectations on dental implant therapy

15 patients diagnosed with Peri-implantitis:



Abrahamsson KH, Wennstrom JL, Berglundh T, Abrahamsson I. Altered expectations on dental implant therapy; views of patients referred for treatment of peri-implantitis. Clin. Oral Implants Res. 28, 2017, 437–442

Altered expectations on dental implant therapy

15 patients diagnosed with Peri-implantitis:



Being referred to a periodontist and diagnosed with peri-implantitis

- detecting problems - being referred to a specialist
- diagnosis of peri-implantitis
- talking to others about dental/peri-implant **problems** and **social support**
- thoughts about reasons for dental/peri-implant problems and about previous dental treatment decisions

Abrahamsson KH, Wennstrom JL, Berglundh T, Abrahamsson I. Altered expectations on dental implant therapy; views of patients referred for treatment of peri-implantitis. Clin. Oral Impl. Res. 28, 2017, 437-442

Altered expectations on dental implant therapy



Investing again in an expensive treatment with no guarantee for the future

- losing **trust**
- "having to **look deep into your wallet** to be able to live like a human being"
- **ambivalence** regarding implant/peri-implant treatment and future oral health

Abrahamsson KH, Wennstrom JL, Berglundh T, Abrahamsson I. Altered expectations on dental implant therapy; views of patients referred for treatment of peri-implantitis. Clin. Oral Impl. Res. 28, 2017, 437-442

Holistic Patient Assessment

☒ Chief Complaint

☒ Medical History

☒ Dental History

☒ Expectations, Perceptions

statements:		
1. Dental implants are a well tested and documented treatment for replacement of missing teeth	I disagree	I agree
2. Treatments with Dental Implants have no risks or complications	I disagree	I agree
3. Dental implants are as functional as natural teeth	I disagree	I agree
4. Dental implants look as nice as natural teeth	I disagree	I agree
5. Dental implants require less care than natural teeth	I disagree	I agree
6. Dental implants last longer than natural teeth	I disagree	I agree
7. Dental implants is a treatment appropriate for everyone	I disagree	I agree

Yao J, C. McGrath, Gao XL, N. Mattheos. Patients' Expectations of Dental Implants prior to consultation with the dentist. COIR 2016

Reliable patient information

- own material
- on-line sources



medline plus: NLM, NIH

Reliable patient information

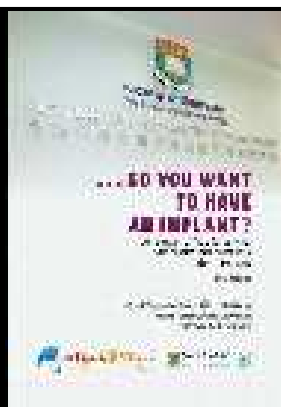
- own material
- on-line sources



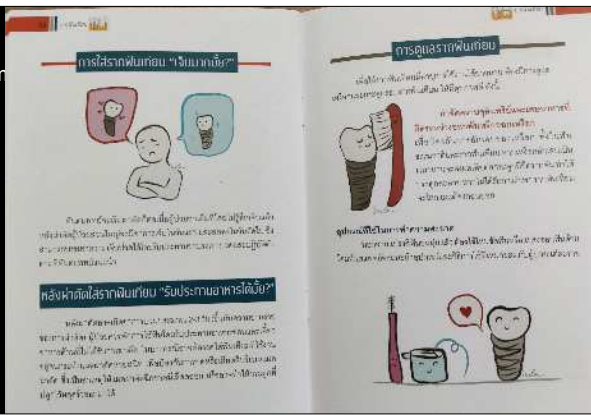
www.eao.org/patients

Reliable patient information

- own material
- www.mattheos.net/resources



Reliable patient inform



- “generic”
- “Difficult to identify with”



Kashbour WA et al. Provision of information on dental implant treatment: Patients' thoughts and experiences. Clin Oral Impl Res. 2018;29:309-319.

“Will it hurt..?”

“You can expect mild pain for the first couple of days, which will be well controlled by over-the-counter painkillers”





Comparison of patient-centered outcomes after routine implant placement, teeth extraction and periodontal surgical procedures

Jie Yao¹, Koon Kay Lee¹, Colman McGrath¹, Yu Nong Wu², Kar Yan Li¹, Nikos Mattheos

COIR 2016

☒ Simple extraction

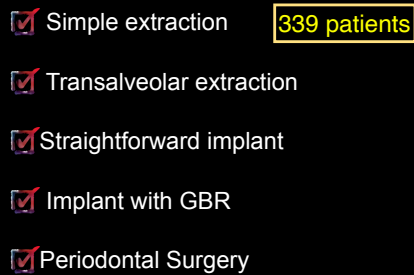
☒ Transalveolar extraction

☒ Straightforward implant

☒ Implant with GBR

☒ Periodontal Surgery

339 patients

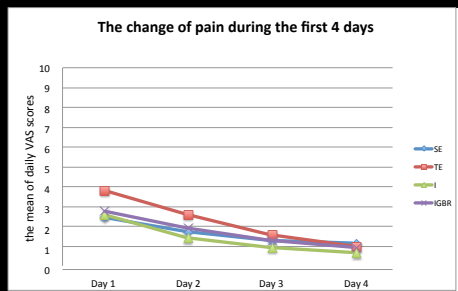


Comparison of patient-centered outcomes after routine implant placement, teeth extraction and periodontal surgical procedures

Jie Yao¹, Koon Kay Lee¹, Colman McGrath¹, Yu Nong Wu², Kar Yan Li¹, Nikos Mattheos
COIR 2016

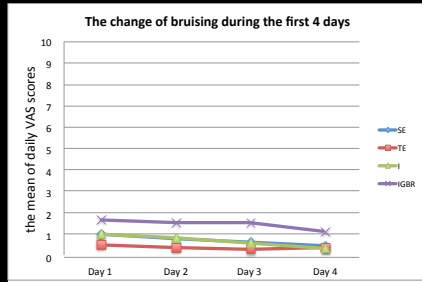
The graph illustrates the change in pain levels over a four-day period for four different procedures. The y-axis, labeled 'the mean of daily VAS scores', ranges from 0 to 10. The x-axis, labeled 'Day', shows days 1 through 4. The legend identifies four procedures: SE (blue line with diamond markers), TE (red line with square markers), I (green line with triangle markers), and GBR (purple line with circle markers). All procedures show a general downward trend in pain scores over the four days. TE consistently has the highest pain scores, while I and GBR have the lowest.

Day	SE	TE	I	GBR
Day 1	2.8	3.9	2.7	2.9
Day 2	1.8	2.8	1.5	1.9
Day 3	1.5	1.8	1.1	1.4
Day 4	1.2	1.3	0.8	1.1



Comparison of patient-centered outcomes after routine implant placement, teeth extraction and periodontal surgical procedures

Jie Yao¹, Koon Kay Lee¹, Colman McGrath¹, Yu Nong Wu², Kar Yan Li¹, Nikos Mattheos
COIR 2016




“Will it hurt..? ”


“Most of our patients have experienced similar or less discomfort than from a simple extraction”


“half of our patients used painkillers the day after the surgery, only 1 out of 3 continued on the second day ”

Patient centred implant dentistry:

Checkpoint !

 Patients come to us with a formed set of **expectations** often including serious misperceptions

 Diagnosing Expectations is a necessary part of patient assessment

 Correcting **misperceptions** and communicating **rehabilitation outcomes** is one of the modern therapeutical challenges



Obrigado !

nikos@mattheos.net
www.mattheos.net