

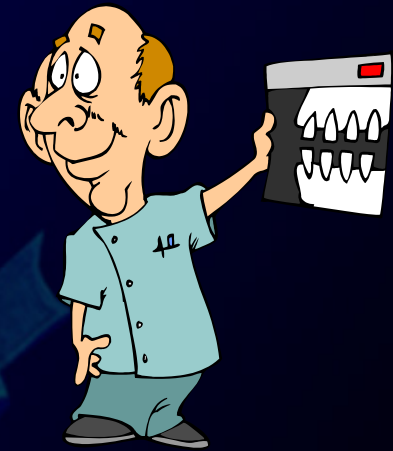
PROSTHODONTICS

3rd year - October 2011

Patient Management and Treatment planning 2/2

Asbjørn Jokstad
Head, Prosthodontics

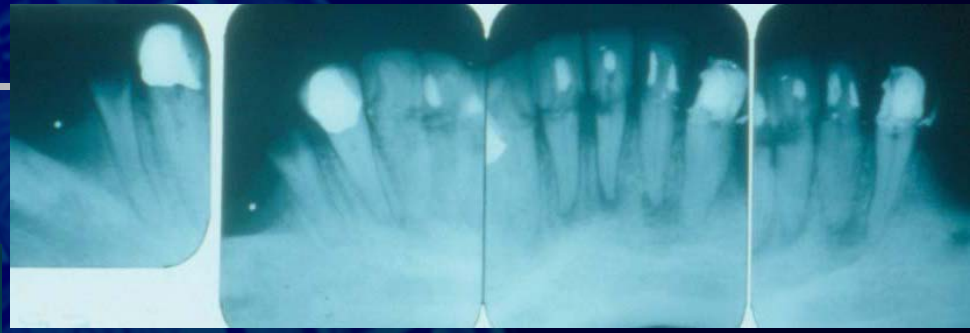
How should we
proceed when
considering the
optimal treatment
for our patients?



**Choice of technical solution
is not = Patient management!**



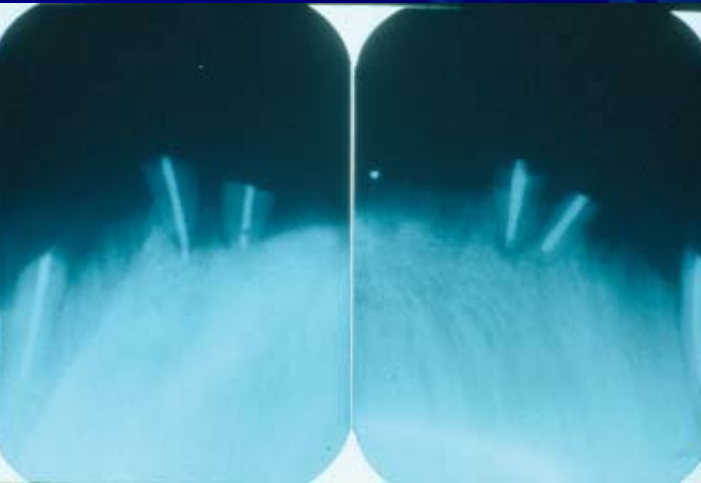
+2 years



+1.5 years



+1 year



+ <1 year

**Doing the intervention right *vs.*
Doing the right intervention**

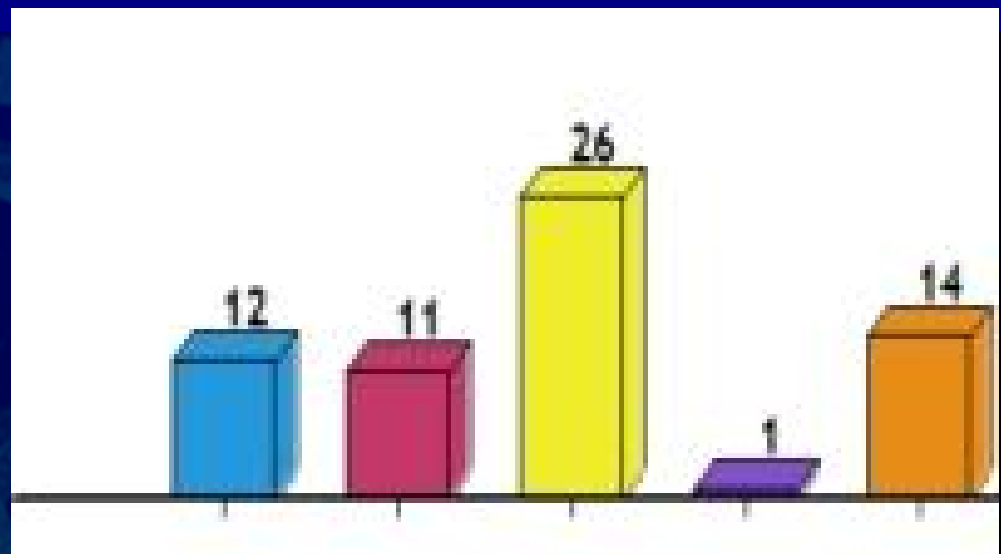
Choice of technical solution ?



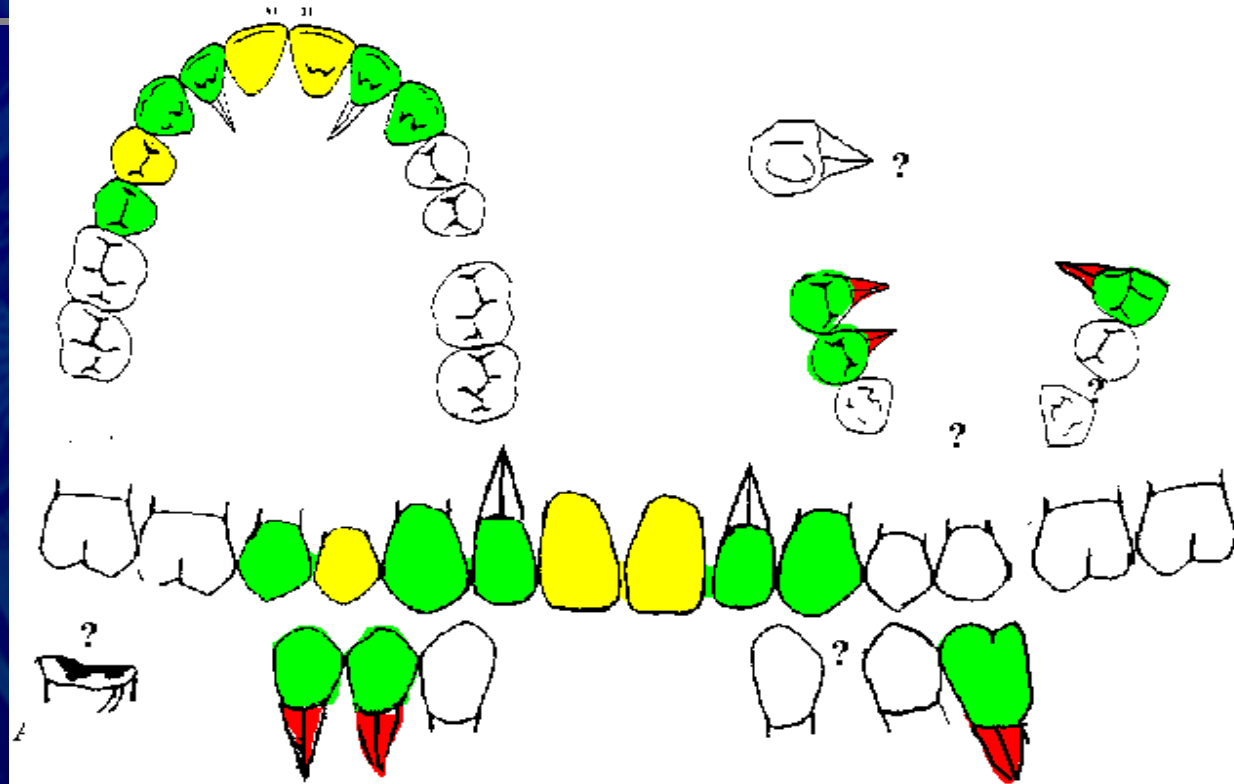


Choice of technical solution ?

- A. Restorative only, no prosth
- B. Cast partial dental prosthesis
- C. Crowns and partial dental prost.
- D. Fixed DP
- E. Implant retained prosthesis



Remove pathology & restorative only



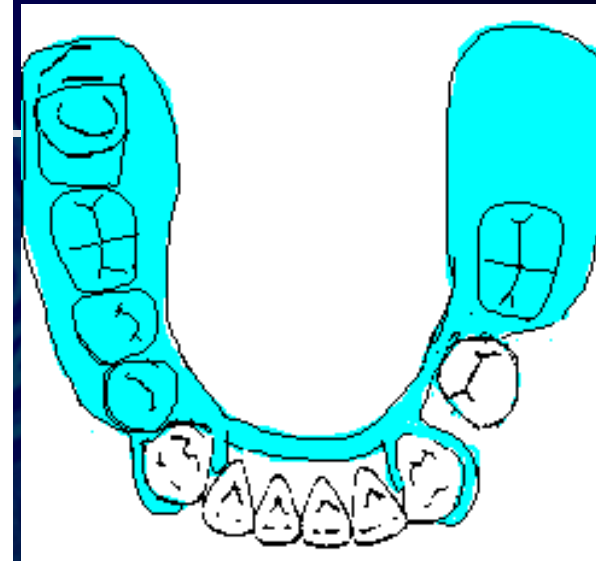
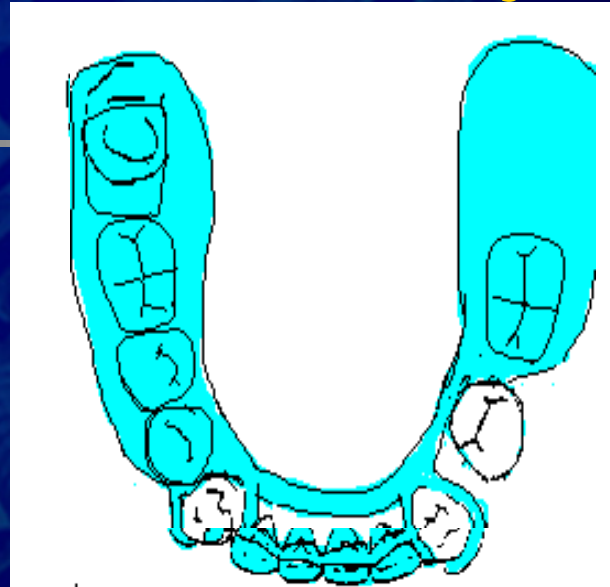
*Choice of restorative material? -
retrograde endodontics? -
extractions? - furcation surgery? -
root separation? - orthodontics? -
occlusal correction?*

Treatment planning

In Prosthodontic treatment planning it is an overwhelming task to consider options without first communicating with the patient!



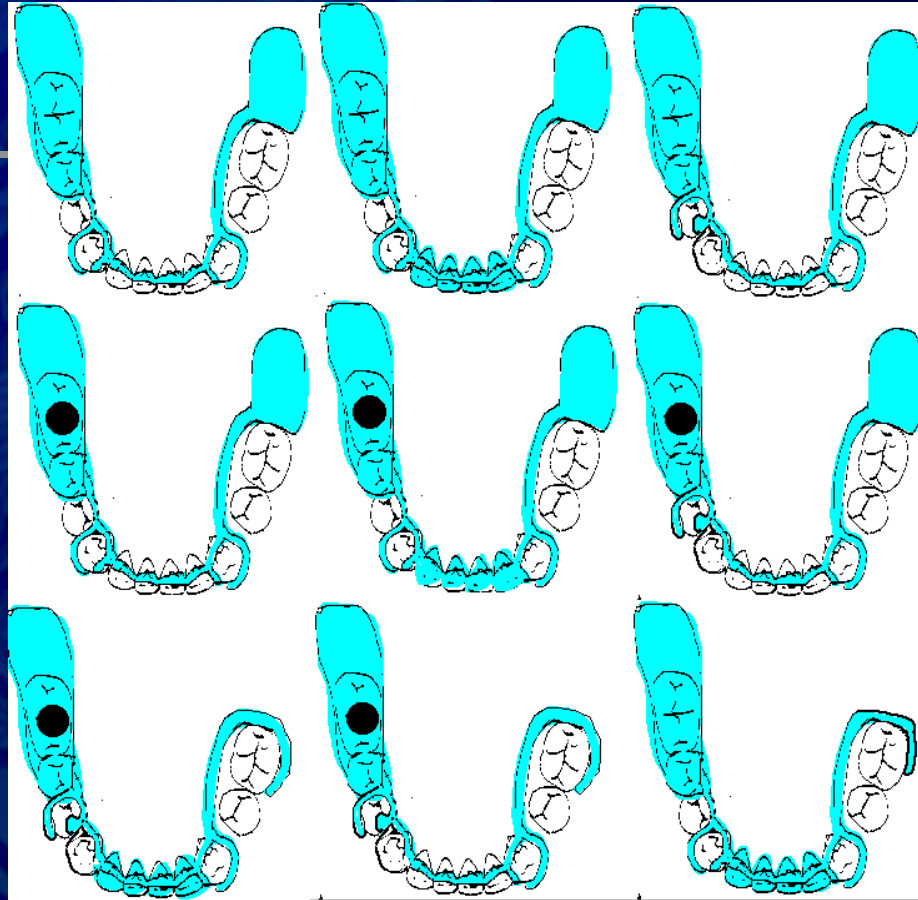
Acrylic RDP



Clinical knowledge

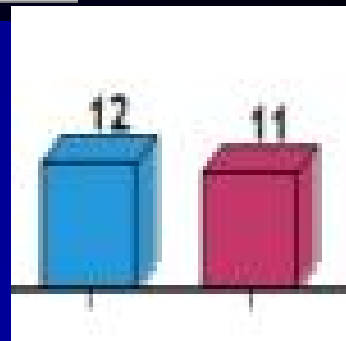
- ❑ Prosthesis design
- ❑ Prognosis

Cast RDP

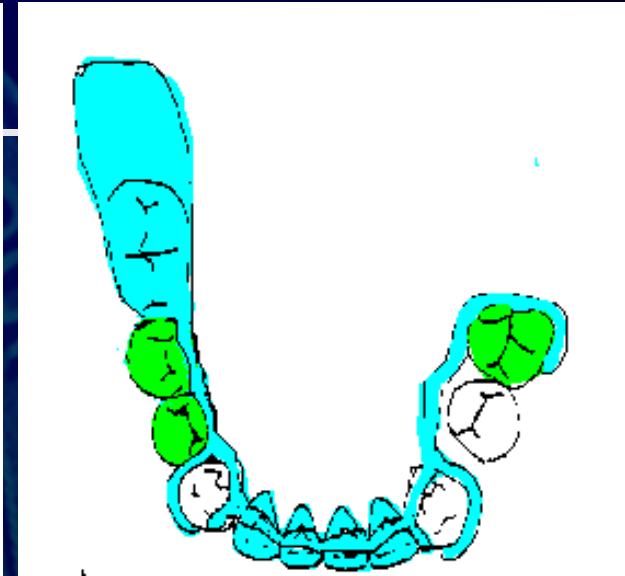
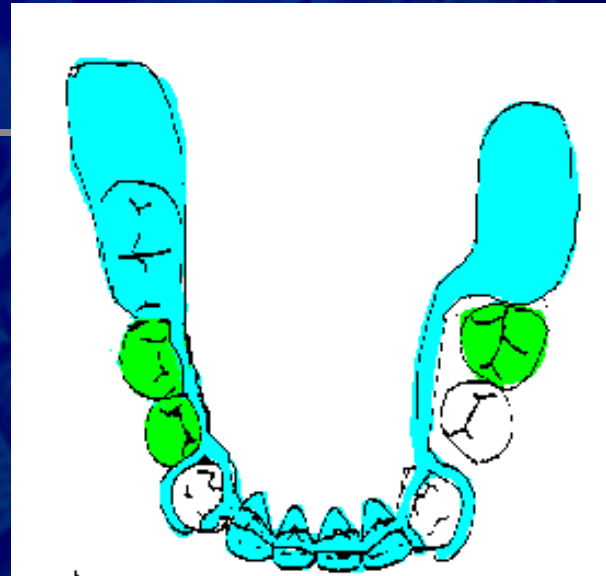


Clinical knowledge

- Prosthesis design
- Prognosis
- Retention

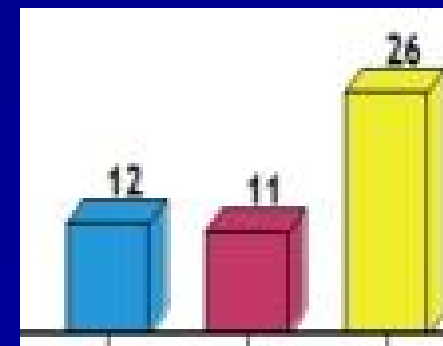


Crowns + cast RDP

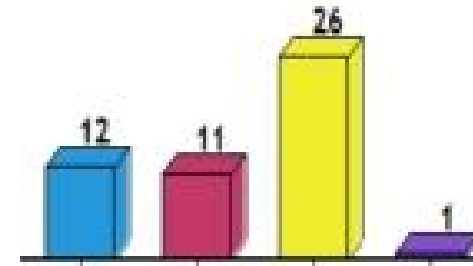
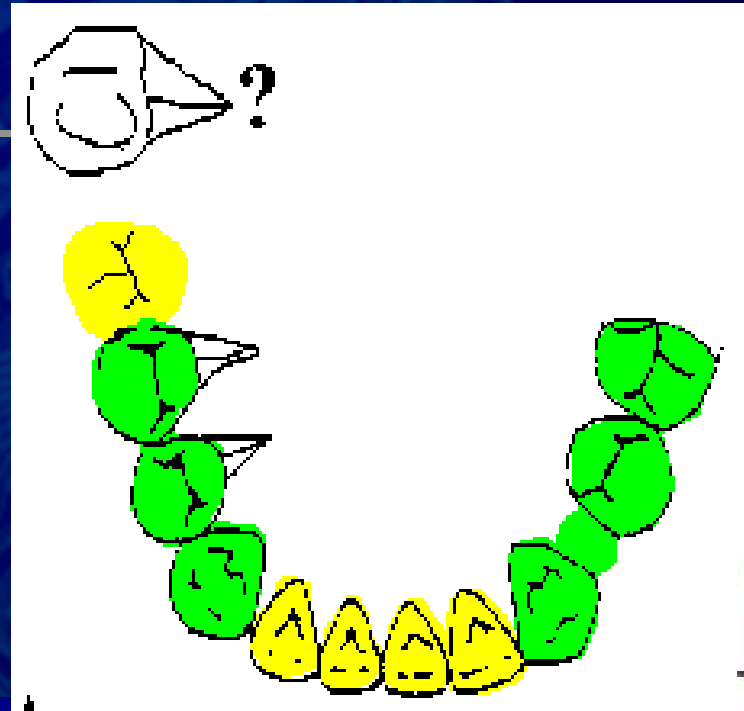


Additional clinical knowledge

- ❑ 36 extraction or crown?
- ❑ Soldered 44 + 45?
- ❑ Milled crowns?
- ❑ Intra- or extracoronal attachments?



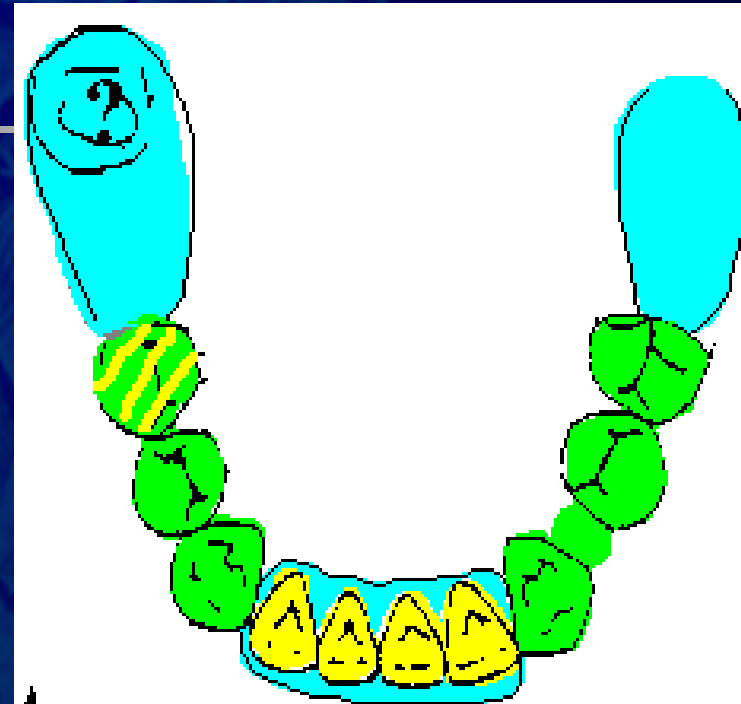
Fixed DP



Clinical knowledge

- ❑ Conventional alloy, titanium-ceramic or gold acrylic?
- ❑ Zn-phosphate, GIC or resin cement?
- ❑ DP extension 46? 46+47 ?

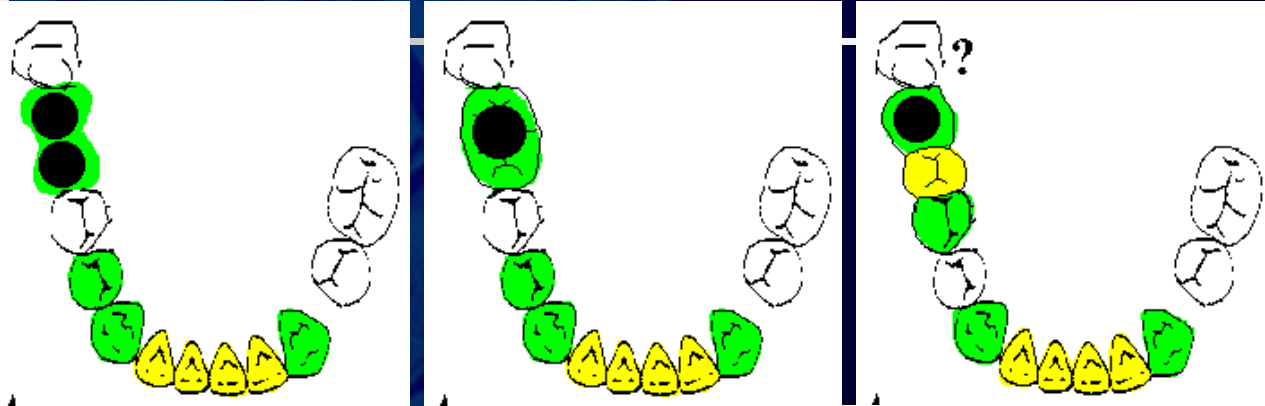
Telescopic FDP



Clinical knowledge:

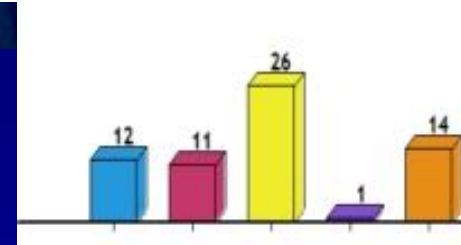
- 47, 36, 45: extraction ... gold coping ... attachment?
- 43/44/45: separation?

Implant retained prosthesis

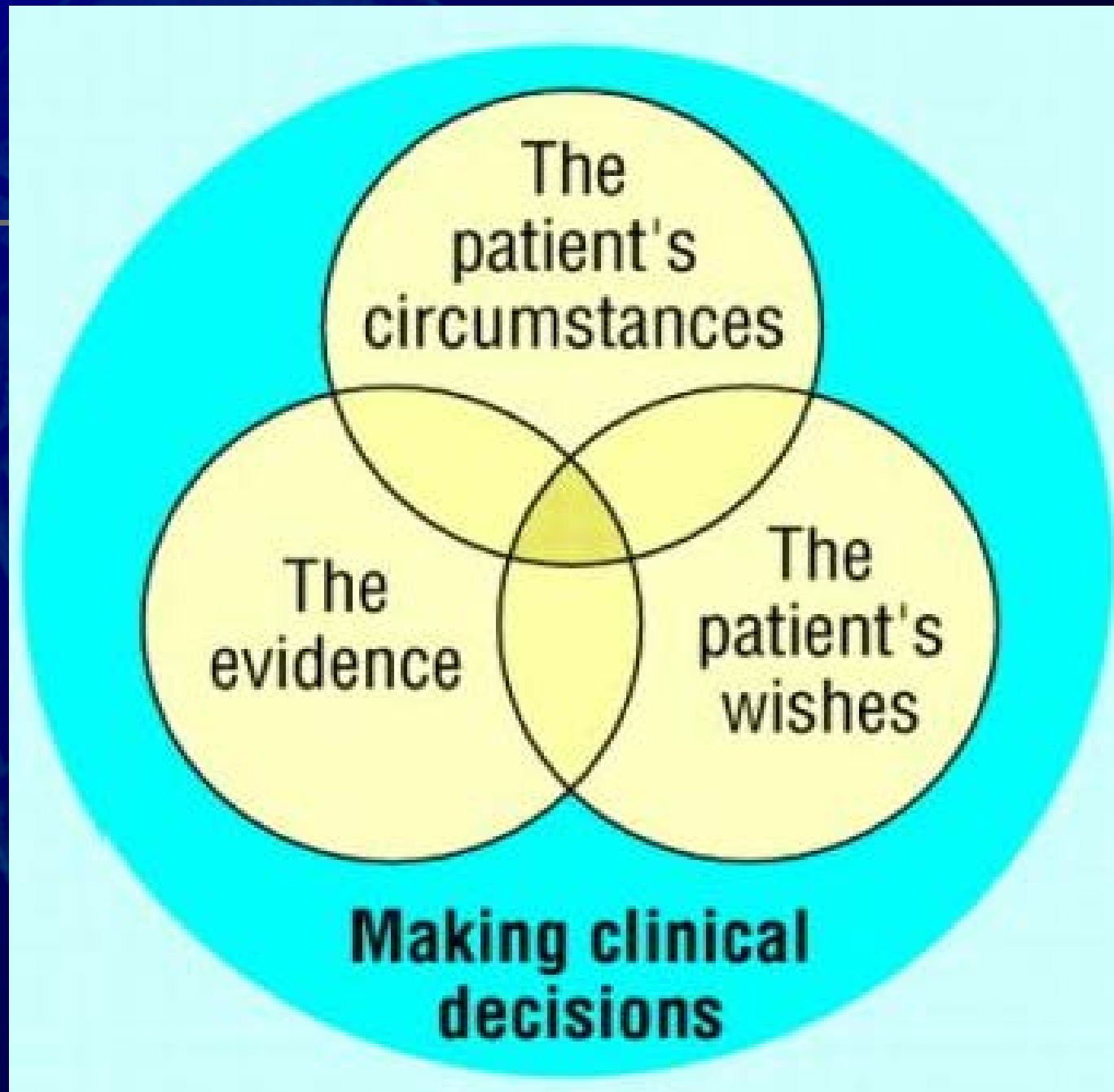


Clinical knowledge

- ❑ One / two implants?
- ❑ Wide collar - standard diameter?
- ❑ Splinted - non-splinted FPD?
- ❑ Cement / screw-retained ?
- ❑ Nobelbiocare, AstraTech, 3i, Endopore, Straumann, Friadent...?

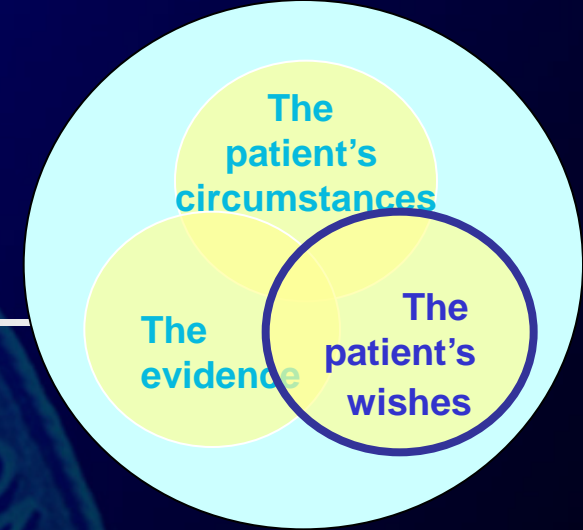


**Advent of
Evidence-
based
dentistry**



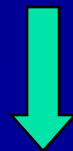
Five-step treatment planning

1. Identify your patient's views, choice of values and objectives for seeking treatment



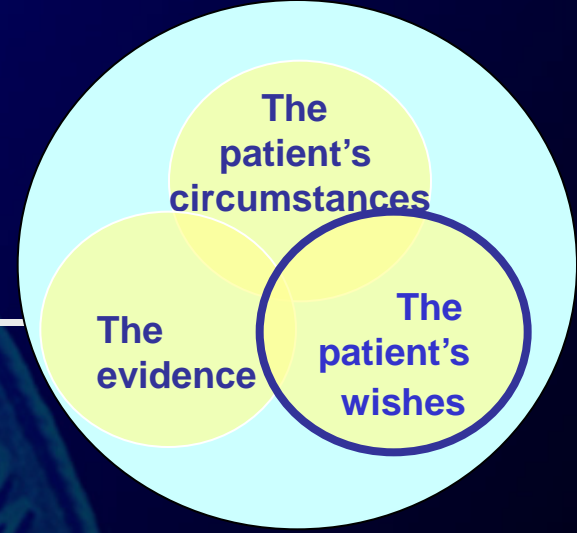
Addressing the patients' preferences

- √ Total rehabilitation or minimal solution?
- √ Demand for longevity, 1 y. - 30 yrs.?
- √ Risk attitude to iatrogenic damage, i.e. future prognosis of tooth?
- √ Demand for fixed (or removable) prosthetic solution?
- √ Expectance of treatment?
- √ Patient economy (?)



Harm-benefit-cost evaluations must be individualized

Five-step treatment planning



1. Identify your patient's views, choice of values, reasons for seeking treatment and treatment objectives
→ Individualized treatment plan



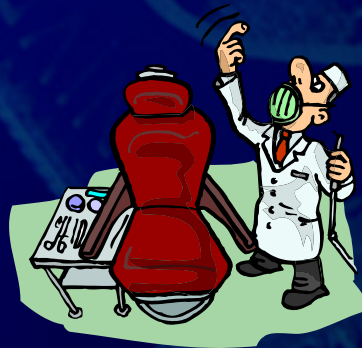
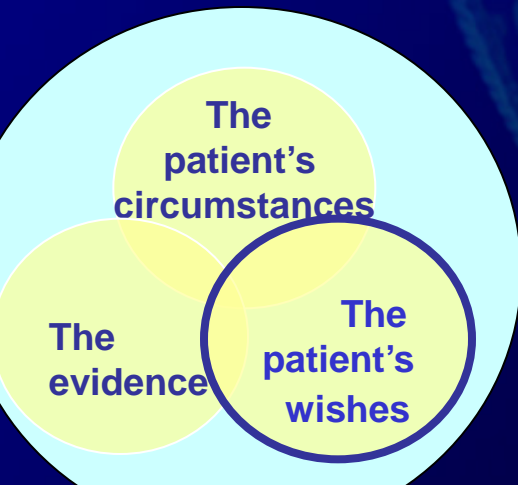
Five-step treatment planning

1. Identify your patient's views, choice of values, reasons for seeking treatment & treatment objectives → Individualized treatment plan

2. Perfect your communication skills

Be cognizant of your:

- Interpersonal manners
- Perceived technical competence
- Communication skills



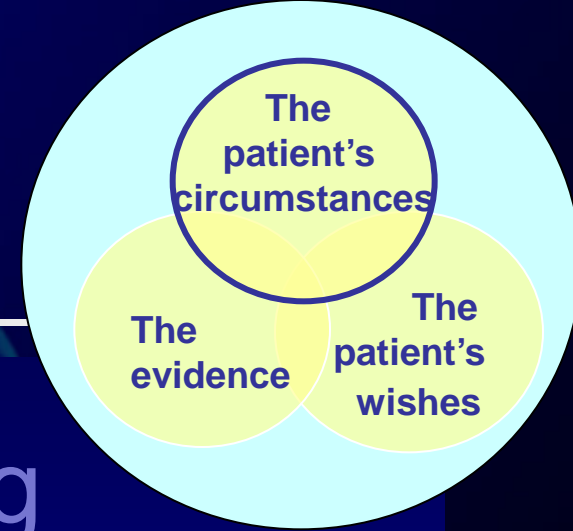
Tough Questions, Great Answers

Responding to Patient Concerns
about Today's Dentistry

Robin Wright, MA

*Building trust
Explaining quality dentistry
Increasing treatment acceptance
Reassuring patients of safety
Discussing fees
Protecting patient relationships*

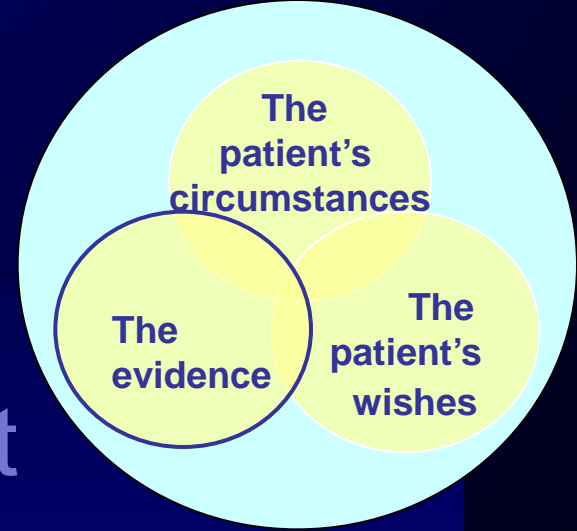
Five-step treatment planning



1. Patient's views, choice of values, reasons for seeking treatment & treatment objectives
2. Perfect your communication skills
3. Consider possible technical solutions = create a treatment strategy



Five-step treatment planning



1. Patient's views, choice of reasons for seeking treatment & treatment objectives
2. Perfect your communication skills
3. Consider possible technical solutions = create a treatment strategy
4. Present all possible outcomes linked to alternative technical solutions...



Some dentists tend to offer :



e.g. Etch-DP

e.g. Single tooth implant

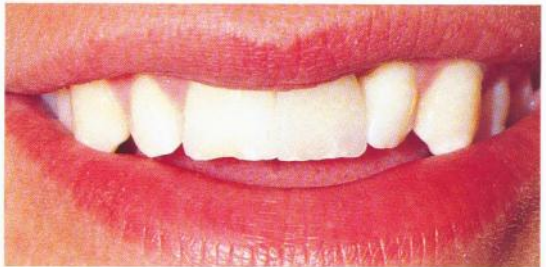
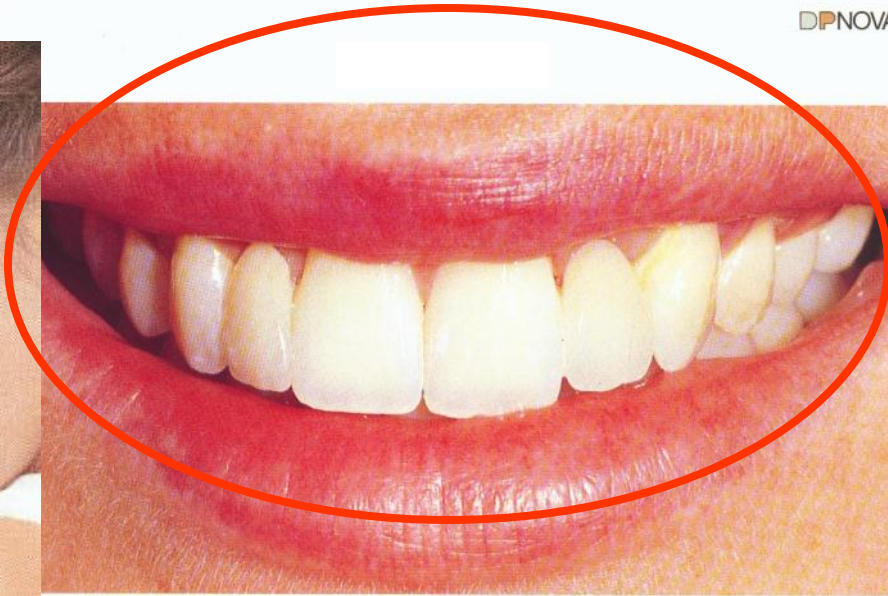


e.g. conventional DP



....glossy pictures!

DPNOVA



...update
...Protocol

CASE REPORT
One Stage Procedure

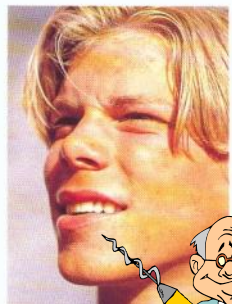
CLINICAL DATA
Scientific update on
Fixture SL

CASE REPORT
Soft Tissue Sculpturing

CALENDAR OF EVENTS

plasier 12, 22.
å Maryland-

ASTRA
ASTRA TECH



Five-step treatment planning

1. Patient's views, choice of values, reasons for seeking treatment & treatment objectives
2. Perfect your communication skills
3. Consider possible technical solutions = create a treatment strategy

4. Present all possible outcomes linked to alternative technical solutions with particular emphasis on patient concerns and preferences

Restore function? -- Change appearance? -- Prevent future problems? -- Attitude towards risk of iatrogenic damage ?

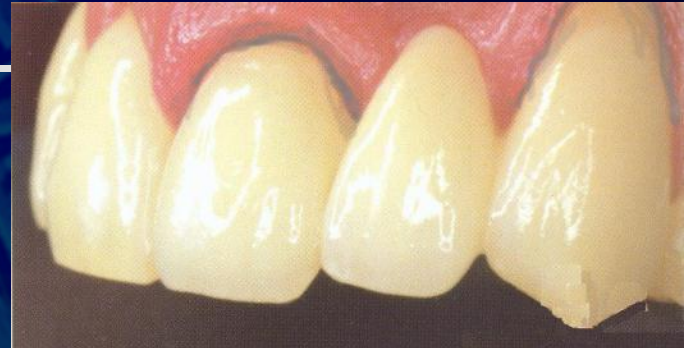


Reality can occasionally be

(FDP)



Perfect result %?



Gingival grey-tone %?

Ceramic fracture %?



Cervical retraction %?



Gingivitis %?



Secondary caries %?



Reality can occasionally be

(Etch-bridge)



Perfect %



Gingivitis %?

Grey tone %?



Opacity %?



Caries/loosening %?

Reality can occasionally be

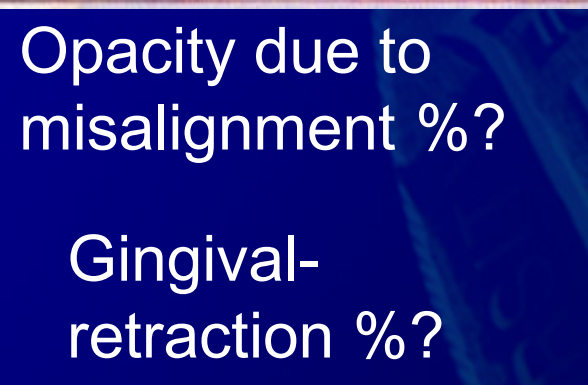
(Single implant)



Perfect result
%?



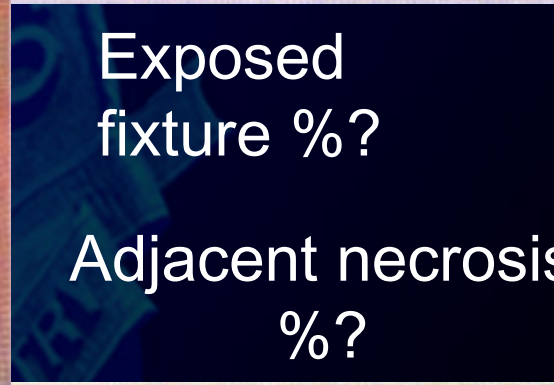
Exposed
fixture %?



Opacity due to
misalignment %?



Gingival-
retraction %?



Adjacent necrosis
%?



The prosthesis as a ...

Conv. Implant
-prosth.

Risk factor for new disease

Caries	(+)	-
Periodontitis	(+)	-
Mucosal damage, allergy, stomatitis, hyperplasia	(+)	-
Temporomandibular dysfunction	-	-

Prognostic factor for:

Occlusal stability (“tooth malpositions”)	+	+
Bone remodeling (“Alveolar bone loss”)	--	++
“Oral discomfort” (esthetics, mastication, speech, etc.)	+	++
Nutritional aspects	?	+
Quality of life	?	+

Five-step treatment planning

1. Patient's views, choice of values, reasons for seeking treatment & treatment objectives
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4. Present all possible outcomes linked to alternative technical solutions with particular emphasis on patient concerns and preferences

Restore function? -- Change appearance? -- Prevent future problems? -- Attitude towards risk of iatrogenic damage ? Cost issues?



Economic cost - Initial fees

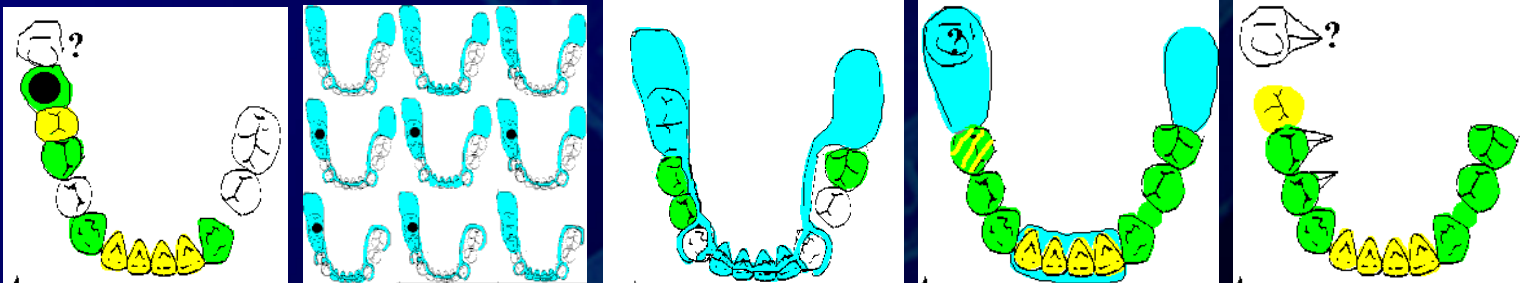


Fees \$

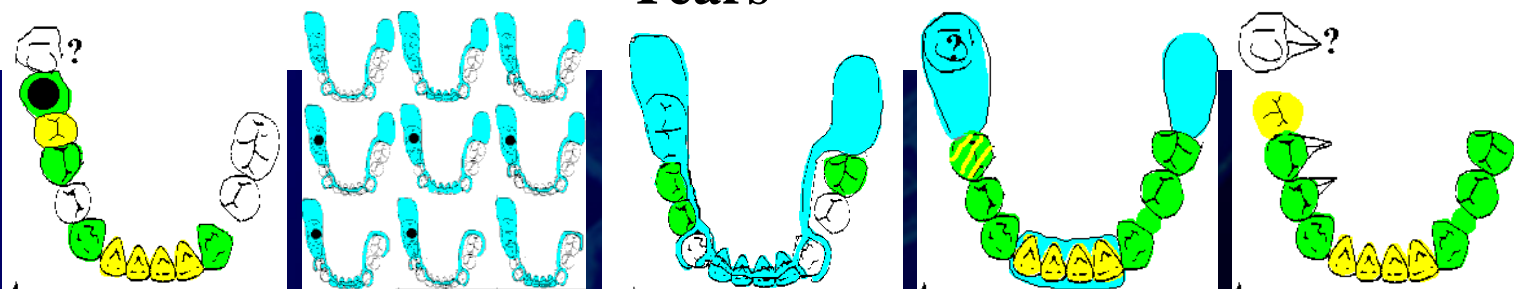
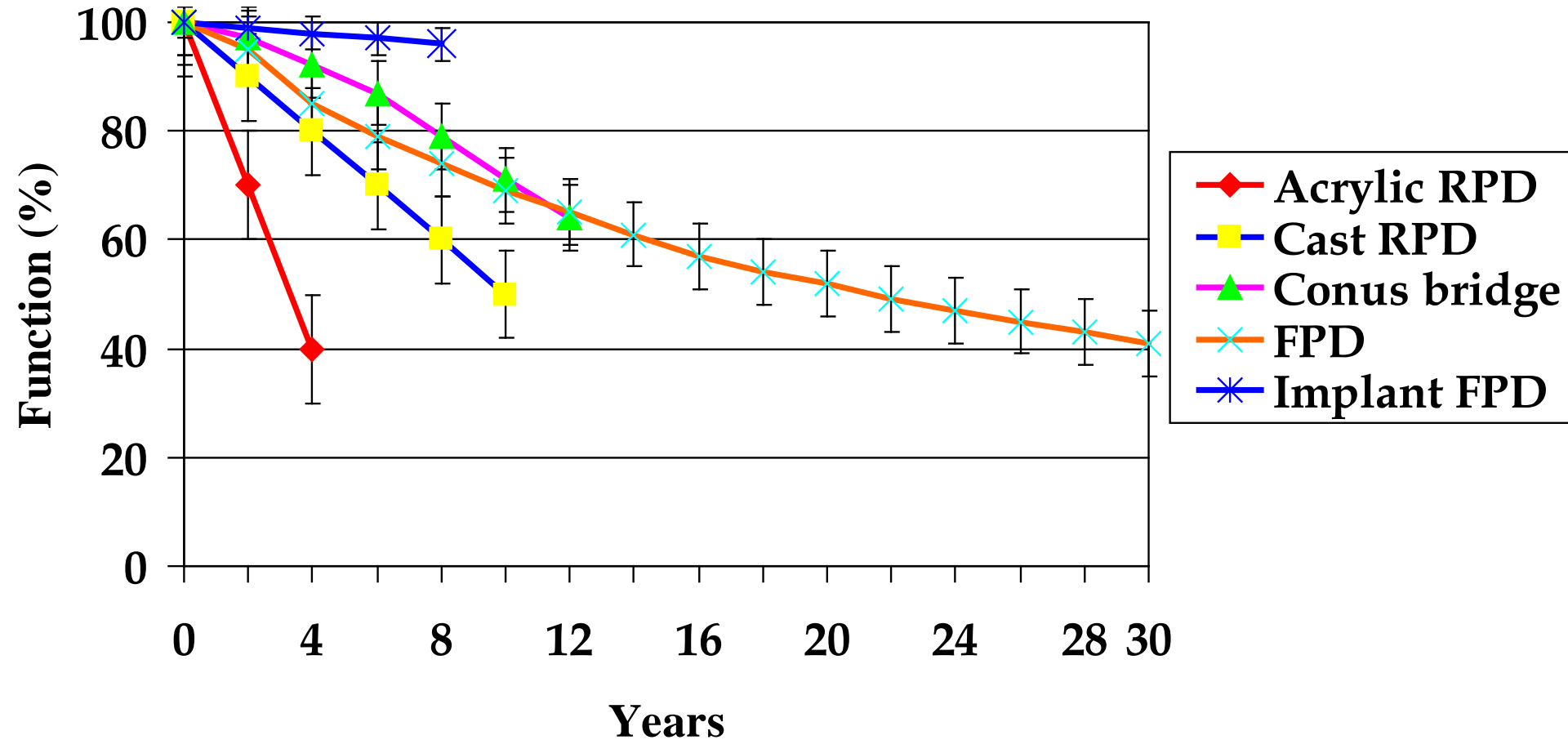
1 Acrylic RDP	1 - 2.000
2 Cast RDP	2- 4.000
2b “ “ “ + crowns	3- 6.000
3 Telescopic FDP	7- 8.000
4 FDP	7- 9.000
5 Implant retained	7- 10.000

Economic cost - over time

- Initial fees
 - Prognosis
 - a Average survival
 - b Yearly maintenance in time
- $axb = \text{economic cost over time}$



Survival, published data

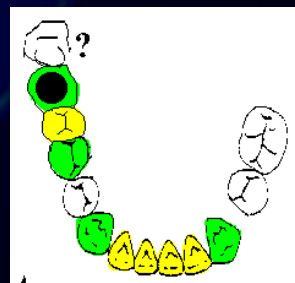
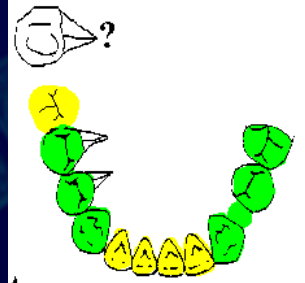
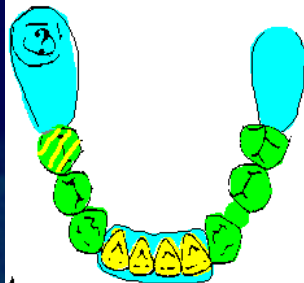
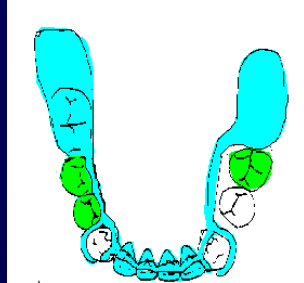
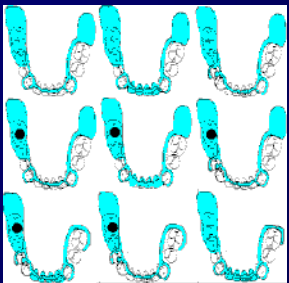


Estimated maintenance (minutes/year)

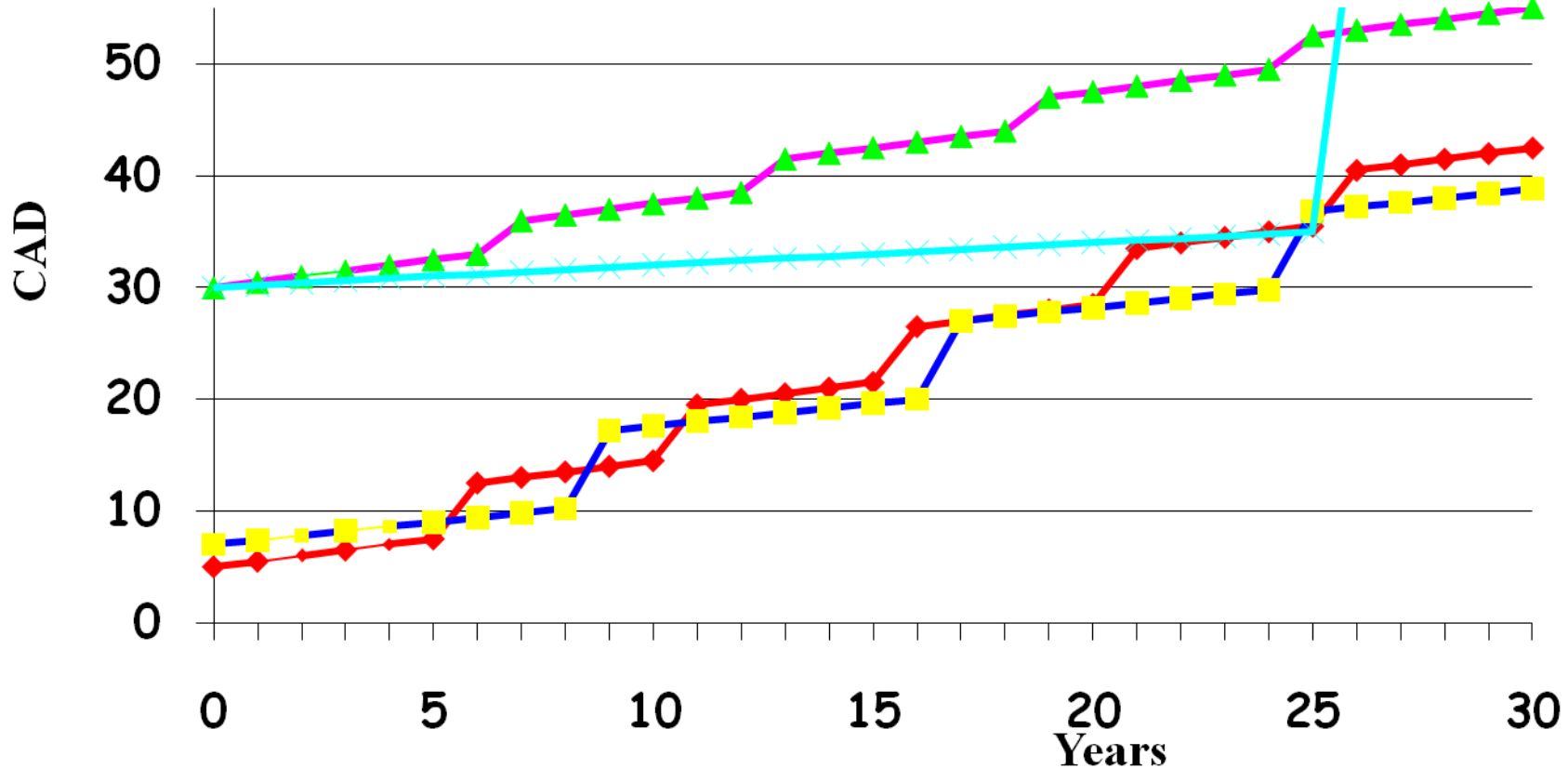
Type:	<u>Control</u>	<u>Adjustments</u>	<u>Repairs</u>	<u>Sum</u>
Acrylic RDP	10	clasp 2.year-10 occlusion 6.year-60	rebase 3.year-60 min. techn. probl. 10%/ 2y	50
Cast RDP	10	clasp 2.year-10 occlusion 6.year- 60	rebase 6.year-60 min. techn. probl.8%/ 2y	40
Telescopic FDP	10	retention 2.year-10 occlusion 6.year- 60	rebase 6.year-60 min. endodontic 20%/10 y techn. probl.100%/5 y	50
FDP	10		endodontic 8%/10 y techn.probl. 20%/5 y	20
Implant-retained	10		techn.probl. 40%/5 y	40-70

Economic cost - over time

	Initial fees \$	Minutes maintenance per year in average
1 Acrylic RDP	1 - 2.000	50
2 Cast RDP	2 - 4.000	40
2b " " " + crowns	3 - 6.000	45
3 Telescopic FDP	7 - 8.000	50
4 FDP	7 - 9.000	20
5 Implant retained	7 - 10.000	40-70



Modelling accumulated costs over time (\$)



Inadequacies of model:

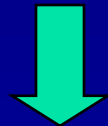
Costs are not adjusted for inflation

Replacement not always possible

Based on average data - not on individual practitioners'

Other potential costs

1. What can happen if and when the prosthesis fail?
- 2 . How probable is it that the prosthesis which I have made will fail?



Potential costs
economic - biologic - psychosocial

“Worst case” situation

e.g., ailure of prosthesis within 1. year in spite of:

- *Correct indications and clinical procedures*
- *Esthetically acceptable and technically free of discrepancies at the time of delivery*
- Probability: *percentage of cases?*
- Consequence: usually alternative / new prosthesis



Economic costs: *remake free of charge common, to keep good patient relationship*

+

biologic & psychosocial costs

Potential worst case scenarios

(Single implant)

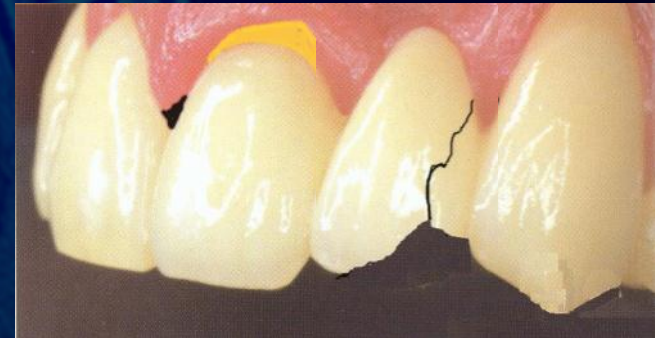


Exposed implant + Opacity due to misalignment + adjacent tooth necrosis
(Etch-bridge)



Recurrent caries + loosening

(FDP)



Retraction+
Ceramic fracture +
Recurrent caries

Summary - "worst case"

<u>Type:</u>	<u>Problem:</u>	<u>%</u>	<u>Additional cost</u>
Acrylic RDP	Mal-adaptation, recurrent caries	<25	\$1.000 <i>New prosthesis?</i>
Cast RDP	Mal-adaptation, recurrent caries	<8	\$1.500 <i>New prosthesis?</i>
Telescopic	tight retention, recurrent caries	0.5	1 hour <i>Correction</i>
FDP	abutment fracture, recurrent caries	0.5	\$3-7.000 <i>Implant? FDP?</i>
Implant Pros.	angulation, adj. tooth necrosis, sleeping fixture, no integration	<4	\$3-9.000 <i>Implant? FDP?</i>

Five-step treatment planning

1. Patient's views, choice of values, reasons for seeking treatment & treatment objectives
2. Perfect your communication skills
3. Consider possible technical solutions = create a treatment strategy
4. Present all possible outcomes linked to alternative technical solutions with particular emphasis on patient concerns and preferences

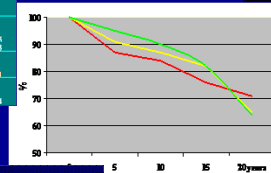
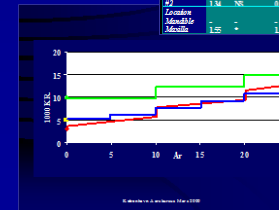
5. Obtain informed consent among the alternative technical solutions

Integration of:

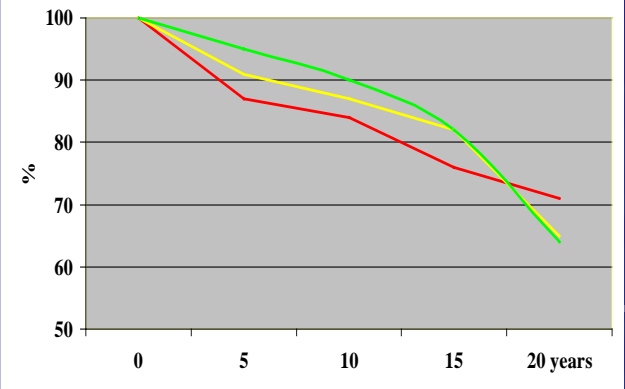
- expected esthetics and function
- risks
- probabilities of survival
- costs & maintenance need
- "worst-case-scenarios"



Independent variables	Di-variant odds ratio	Odds ratio confidence interval	95% CI	Multi-variant odds ratio	Multi-variant confidence interval
Age group					
25-30	1.00			1.00	
31-35	2.32	**	1.15-3.13	2.02	**
36-40	7.60	***	3.43-16.88	7.48	***
Gender					
Male	1.00			1.00	
Female	2.42	**	1.41-2.79	2.32	**
Insurance					
Commercial	1.11	NS	0.11-1.94	1.40	NS
Other insurance	3.32	***	2.52-4.24	3.46	**
Dentist					
1	1.00			1.00	
2	1.34	NS	0.95-1.61	1.04	NS
Location					
Manhattan	1.00			1.00	
Midtown	1.17	NS	0.84-1.65	1.15	NS



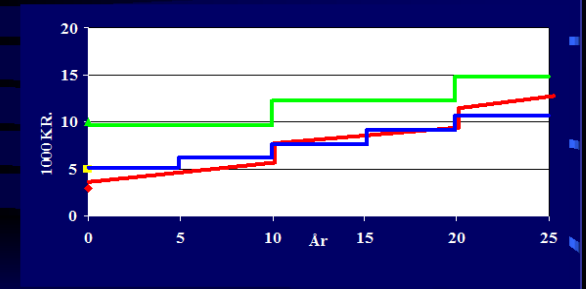
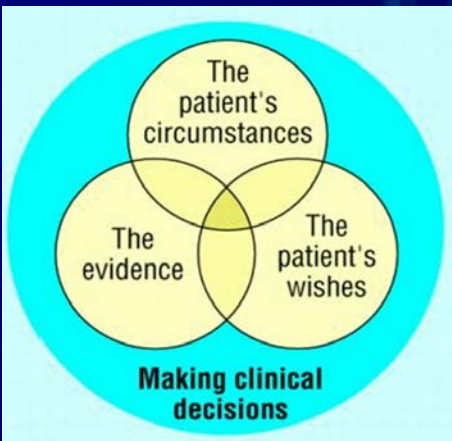
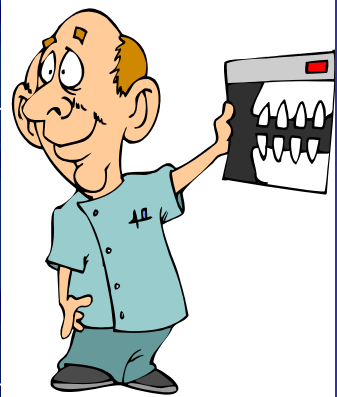
Correct treatment decisions



Independent variables	Bi-variate odds ratios	Bivariate significance	95% Confidence intervals bivariate odds ratios	Multi-variate odds ratios	Multivariate significance	95% Confidence intervals for multivariate odds ratios
Age group						
20-30	-	-	-	-	-	-
30-40	2.32	**	1.15 - 3.13	2.52	**	1.35 - 3.33
+40	2.63	***	1.43 - 3.08	2.63	***	1.83 - 3.8
Gender						
Male	-	-	-	-	-	-
Female	2.42	**	1.61 - 2.79	2.12	**	1.91 - 2.9
Material						
Amalgam	-	-	-	-	-	-
Composites	1.12	NS	0.13 - 1.56	1.42	NS	1.13 - 1.96
Glass ionom.	3.12	***	2.52 - 4.34	5.65	**	4.67 - 7.23
Dentists						
#1	-	-	-	-	-	-
#2	1.34	NS	0.35 - 1.61	1.04	NS	1.35 - 2.01
Location						
Mandible	-	-	-	-	-	-
Maxilla	1.55	*	1.17 - 2.04	1.15	*	1.57 - 2.14



Dentist:patient relationship
Two-way communication



Treatment planning - take-home messages

1. Do not offer patients glossy pictures!



Treatment planning - take-home messages

1. Do not offer patients glossy pictures
2. Two-way communication is critical in the treatment planning phase.

Be cognizant of your:

- Interpersonal manners
- Perceived technical competence
- Communication skills



Treatment planning - take-home messages

1. Do not offer patients glossy pictures
2. Two-way communication is critical in the treatment planning phase. Be cognizant of your: Interpersonal manners, Perceived technical competence & Communication skills
3. **Dentists and patients diverge about:**
 - evaluation of therapy success
 - appraisal of, and attitude towards risk



Treatment planning - take-home messages

1. Do not offer patients glossy pictures
2. Two-way communication is critical in the treatment planning phase. Be cognizant of your: Interpersonal manners, Perceived technical competence & Communication skills
3. Dentists and patients diverge about evaluation of therapy success & appraisal of, and attitude towards risk

All treatment recommendations must therefore be individualized and based on the patient's wishes and values



Treatment planning - take-home messages

1. Do not offer patients glossy pictures
2. ~~Two-way communication is critical in the treatment planning phase. Be cognizant of your: Interpersonal manners, Perceived technical competence & Communication skills~~
3. Dentists and patients diverge about evaluation of therapy success & appraisal of, and attitude towards risk.

All treatment recommendations must therefore be individualized and based on the patient's wishes and values



Educating the patient how to avoid future oral disease (and treatment) is a component in all patient care.

