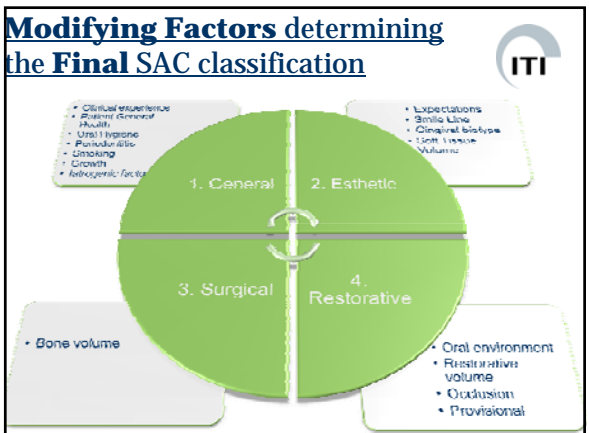
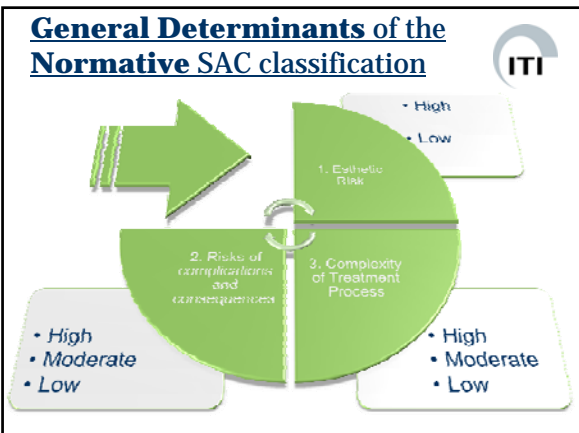
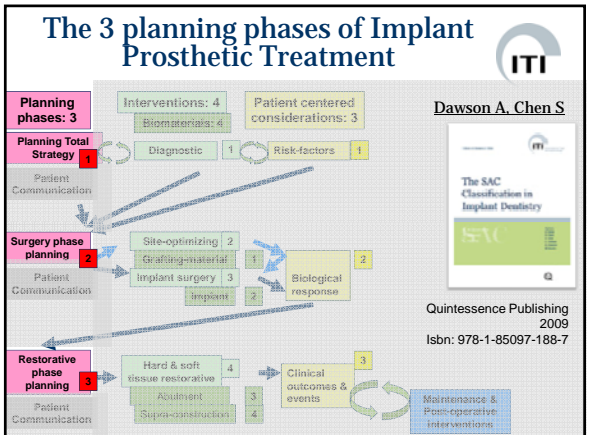
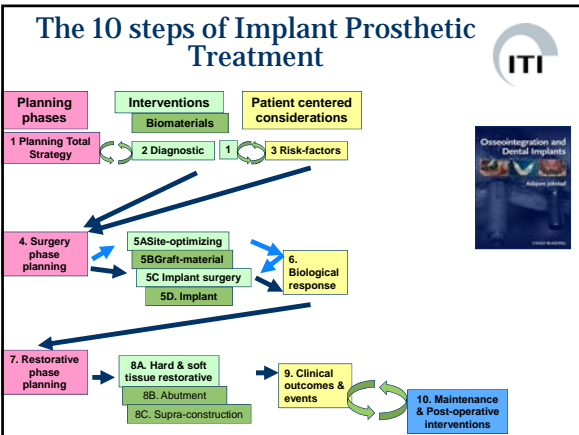
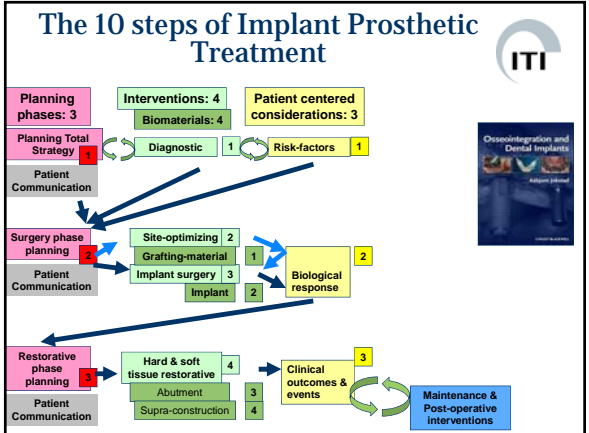


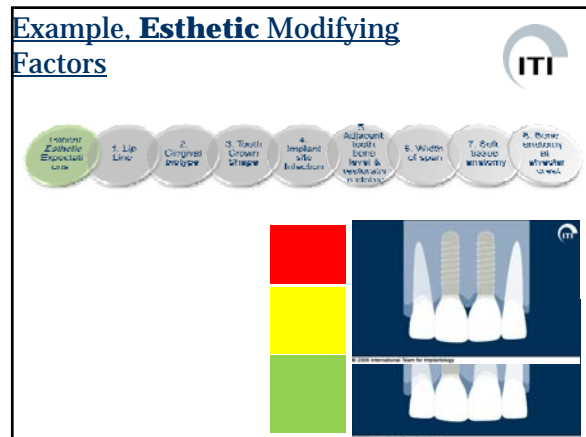
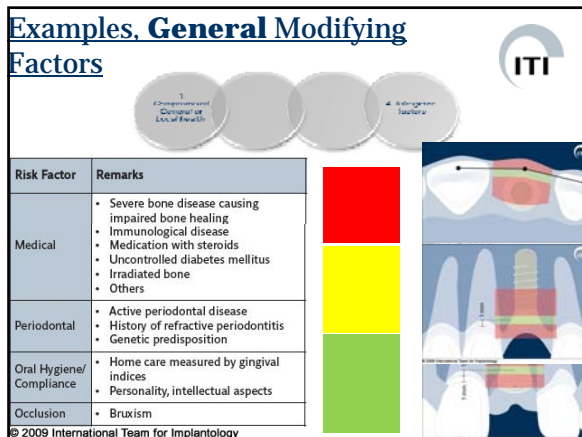
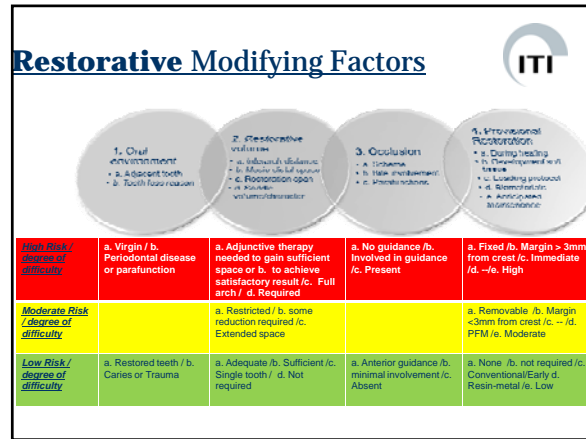
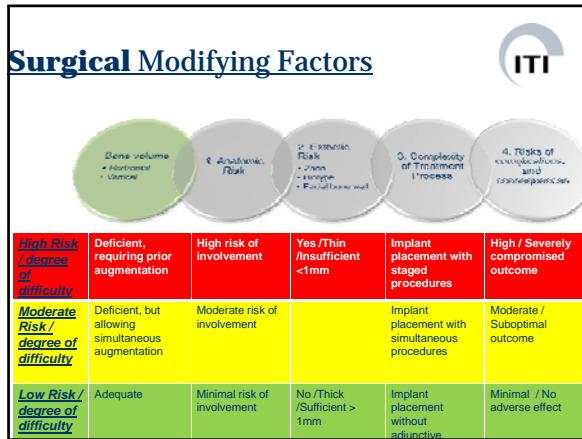
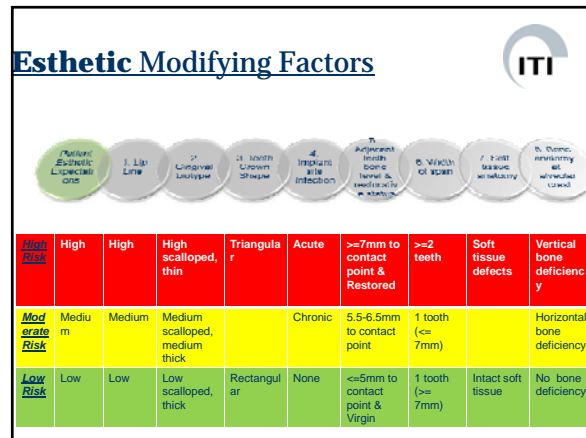
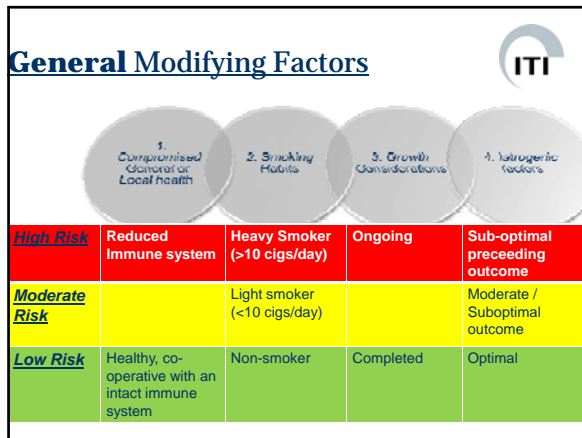
**ITI** International Team for Implantology

## The SAC Assessment Tool

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Holland Bloorview ITI Education Week  
October 27, 2010





### Example, Surgical Modifying Factors

**Bone volume**  
• Horizontal  
• Vertical

**High Risk / degree of difficulty**  
Deficient, requiring prior augmentation

**Moderate Risk / degree of difficulty**  
Deficient, but allowing simultaneous augmentation

**Low Risk / degree of difficulty**  
Adequate

Implant Size	Core Diameter Range (mm)	Minimum Horizontal Bone Dimension (mm)
Maximum diameter implants	3.0 to 3.5	5.0 to 5.5
Standard diameter implants	3.5 to 4.5	5.5 to 6.5
Wide diameter implants	4.5 to 6.0	6.5 to 8.0

### Normative Surgical SAC classification

### Normative SAC classification + Modifier Considerations → SAC Classification

### Application of Surgical SAC classification – Single tooth space with Sufficient bone

**Non-Esthetic Zone**  
Straightforward

**Esthetic Zone**  
Advanced

### Application of Surgical SAC classification – Single tooth space with deficient vertical bone volume

**Non-Esthetic Zone**  
Complex

**Esthetic Zone**  
Consistent 5 clinical parameters  
Complex

### Application of the Restorative SAC classification

**Anterior Single Teeth**

**Anterior edentulous spaces**

**Posterior Single Teeth**

**Posterior edentulous spaces**

Clinical parameters depending on intraoral location and size

# Application of the Restorative SAC classification



## Edentulous – Fixed Restorations



Maintenance Needs - Removable	Notes	Degree of Difficulty			Maintenance Needs - Removable	Notes	Degree of Difficulty		
		Straightforward	Advanced	Complex			Straightforward	Advanced	Complex
Inter-arch distance (for 4-6 implants)	Refers to the distance from the proximal implant attachment margin to the opposing maxillary arch	> 10 mm	> 10 mm	> 10 mm - not indicated	Inter-arch distance (for 4-6 implants)	Refers to the distance from proximal implant attachment margin to opposing maxillary arch	> 10 mm	> 10 mm	> 10 mm - not indicated
Intra-arch distance (for 4-6 implants)		> 8 mm	> 8 mm - not indicated	> 8 mm - not indicated	Intra-arch distance (for 4-6 implants)		> 8 mm	> 8 mm	> 8 mm - not indicated
Loading protocol (for 4-6 implants)		Early	Immediate (see only)	Immediate	Loading protocol (for 4-6 implants)		Conventional only	Conventional only	Immediate
Esthetic risk	Refers to the risk of complications due to the restoration, not to the patient's condition	Low	Moderate/High (see only)	High	Esthetic risk	Refers to the risk of complications due to the restoration, not to the patient's condition	Low	Moderate/High (see only)	High
Implant position	Refers to the risk of complications due to the restoration, not to the patient's condition	Low	Moderate/High (see only)	High	Implant position	Refers to the risk of complications due to the restoration, not to the patient's condition	Low	Moderate/High (see only)	High
Prosthetic factors	Refers to the risk of complications due to the restoration, not to the patient's condition	Low	Moderate/High (see only)	High	Prosthetic factors	Refers to the risk of complications due to the restoration, not to the patient's condition	Low	Moderate/High (see only)	High
Occlusion	Refers to the risk of complications due to the restoration, not to the patient's condition	Low	Moderate/High (see only)	High	Occlusion	Refers to the risk of complications due to the restoration, not to the patient's condition	Low	Moderate/High (see only)	High



Esthetic Risk Factor	Level of Risk		
	Low	Moderate	High
Medical status	Healthy, co-operative patient with an intact immune system.		Reduced immune system
Smoking habit	Non-smoker	Light smoker (< 10 cig/day)	Heavy smoker (> 10 cig/day)
Patient's esthetic expectations	Low	Medium	High
Lip line	Low	Medium	High
Gingival biotype	Low scalloped, thick	Medium scalloped, medium thick	High scalloped, thin
Shape of tooth crowns	Rectangular		Triangular
Infection at implant site	None	Chronic	Acute
Bone level at adjacent teeth	≤ 5 mm to contact point	5.5 to 6.5 mm to contact point	≥ 7 mm to contact point
Restorative status of neighboring teeth	Virgin		Restored
Width of edentulous span	1 tooth (≤ 7 mm)	1 tooth (≤ 7mm)	2 teeth or more
Soft tissue anatomy	Intact soft tissue		Soft tissue defects
Bone anatomy of alveolar crest	Alveolar crest without bone deficiency	Horizontal bone deficiency	Vertical bone deficiency

Issue	Degree of Difficulty		
	Low	Moderate	High
Oral Environment			
General Oral Health	No active disease		Active disease
Condition of adjacent teeth	Restored Teeth		Virgin teeth
Reason for tooth loss	Caries/Trauma		Periodontal Disease, or occlusal parafunction
Restorative Volume			
Inter-arch distance	Adequate for planned restoration.	Restricted space, but can be managed.	Adjunctive therapy will be necessary to gain sufficient space for planned restoration.
Mesio-distal space	Sufficient to fit replacements for missing teeth	Some reduction in size, or number of teeth will be necessary	Adjunctive therapy will be needed to achieve a satisfactory result.
Span of restoration	Single tooth	Extended edentulous space	Full arch
Volume and characteristics of the edentulous saddle	No prosthetic soft-tissue replacement will be necessary		Prosthetic replacement of soft tissue will be needed for esthetics or phonetics
Occlusion			
Occlusal Scheme	Anterior guidance		No guidance
Involvement in occlusion	Minimal involvement		Implant restoration is involved in guidance.
Occlusal para-function	Absent		Present
Provisional Restorations			
During implant healing	None required	Removable	Fixed
Implant supported provisionals needed	Not required.	Restorative margin 2mm apical to mucosal crest	Restorative margin > 3mm apical to mucosal crest
Loading Protocol	Conventional or early loading		Immediate loading
Materials/Manufacture	Resin based materials & metal reinforcement	Porcelain fused to metal.	
Maintenance Needs	Low	Moderate	High

General Factors	Assessment	Notes
Medical contraindications	None	
Smoking habit	None	
Growth considerations	None	
Site Factors	Assessment	Notes
Bone volume	Deficient	Horizontal bone augmentation in a staged approach required using autologous cortico-cancellous bone block
Anatomic risk	Low	
Esthetic risk	High	As determined by the ERA
Complexity	High	Immediate placement and flapless approach increases treatment complexity.
Risk of complications	High	Implant placement with staged procedures High risk of surgical complications with the bone graft, and donor site morbidity. Complications may significantly affect treatment outcomes
Loading protocol	Conventional or Early	
SAC Classification	Complex	



## Assumptions – SAC Tool

The SAC Classification assumes that appropriate training, preparation and care are devoted to the planning and implementation of treatment plans. No classification can adequately address cases or outcomes that deviate significantly from the norm. In addition, it is assumed that clinicians will be practicing within the bounds of their clinical competence and abilities. Thus, within each classification, the following general and specific assumptions are implied:

### General:

- Treatment will be provided in an appropriately equipped operator with an appropriate aseptic technique.
- Adequate clinical and laboratory support is available.
- Recommended protocols are followed.

### Patients:

- Patients' medical conditions are not compromised or are appropriately addressed.
- Patients have realistic expectations with respect to the outcomes of their treatment.

### Specific:

- The type, dimensions and number of implants to be placed are appropriate for the site(s).
- The implants are correctly positioned and adequately spaced.
- Restorative materials that are used are appropriate to the task.

This SAC Assessment Tool provides normative feedback. In this context, "normative" relates to the classification that conforms to the norm, or standard, for a given clinical situation in implant dentistry and thus to the most likely classification of a case. The normative classification may alter as a result of modifying factors and/or complications.

<http://www.iti.org/var/external/sac-tool/default-1000.htm>



Assessment of  
Surgical Cases

Assessment of  
Restorative Cases

This tool is based on a book entitled "The SAC Classification in Implant Dentistry" jointly published by the ITI and the Quintessence Publishing Group. It comprises the proceedings of a consensus conference organized by the ITI in 2007 with the aim of providing normative guidelines for various types of restorative and surgical cases based on a system referred to as the SAC (Straightforward, Advanced and Complex) Classification system.

Please note that certain assumptions have been made in the establishment of this SAC Classification. To review them, click on "Assumptions" in the menu bar below.