

Magic Surgical System

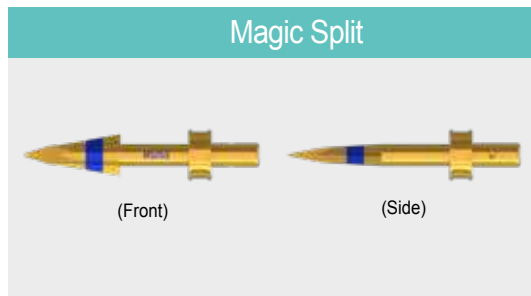
Bone Quality Classification and Bone Quality Checking for Implant Treatment (by Dr. Wang)

■ Bone Quality Classification for Implant Treatment

- Purpose of bone classification : a. To determine the implant surgery that ensures a high success rate.
b. To plan a treatment for bone remodeling that ensures a high success rate.
- Effects of bone classification : c. To determine the placement hole formation method.
d. To be able to decide on which surgical technique is used (1-stage/2-stage surgery)
e. To determine the loading time.

Bone quality classification (Dr. Wang's method)

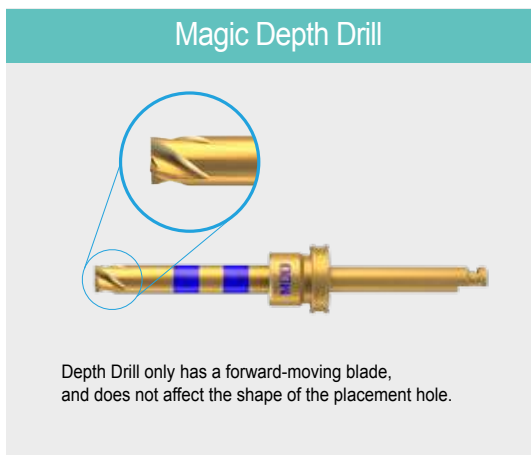
Primary diagnostic method



Both lateral blades of the 'Magic Split' should be aligned mesiodistally and entering direction of 'Magic Split' should be aligned with longitudinal axis of alveolar bone where implant is planned to be placed.

- **Very soft bone** : Bone condition with almost no cortical bone where 'Magic Split' enters by hand
- **Soft bone** : Condition of cortical bone that can be bent and expanded. Instrument enters by gentle tapping with mallet.
- **Hard bone** : Condition of cortical bone that cannot be bent. Does not enter more than 2mm by gentle tapping with mallet.

Secondary diagnostic method






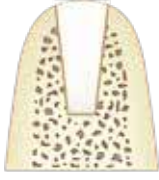


Use Magic Depth Drill and perform drilling as if picking on and off at the bottom of the placement hole. If the bone permits the drill to do good grinding, it is cancellous bone; otherwise cortical bone. After this procedure, scratch the wall of the hole using the spoon excavator. If bone can be felt, it indicates the presence of cancellous bone. If the drill does not scratch but enters the wall, it is due to bone marrow spaces.

Classify into **Q1, Q2, Q2-E, Q3, Q3-E, Q4** according to the condition of floor and wall of the placement hole.

- Cortical bone up to bottom floor : **Q1**
- Cortical bone with normal cancellous bone : **Q2**
- Cortical bone with bone marrow space : **Q2-E**
- Thin cortical bone with normal cancellous bone : **Q3**
- Thin cortical bone with bone marrow space : **Q3-E**
- Almost zero cortical bone and little cancellous bone : **Q4**

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■ Bone Quality Classification (Dr. Wang's method)

Bone Type	Primary bone classification			Secondary bone classification			
	Response of cortical bone	Cortical bone thickness and characteristic	Drill size	Condition of cancellous bone	Before implantation	Loading time	Surgical Method
Hard Bone		Thick and dense cortical bone (2~3mm or more)	Regular Size Drill	No presence of cancellous bone	Drill 0.5~1mm deeper	Immediate loading possible	1 or 2 stage surgery
	Q1						
							
Q2	Bone marrow space	Bone marrow replacement if needed	Hard Bone is less than 4mm	4~5months after grafting	1 or 2 stage surgery		
			Hard Bone is more than 4mm	Immediate Loading possible without grafting			
Q2-E							
Soft Bone		Thin and porous cortical bone (less than 2mm)	Drill 1 size Smaller	Regular cancellous bone	Place 0.5mm deeper	Delayed loading (4~5months)	2-stage surgery recommended
	Q3						
							
Q3-E							
Very Soft Bone		Almost no cortical bone	Tapping System	Thin and a small number of trabeculae	Bone marrow replacement with 3.8 Magic Expander (place 1mm deeper)	More than 8 months	2-stage surgery required.
	Q4						

- In all bone qualities, the quality at the floor of the hole must be checked using the Depth Drill. If the floor is found to have hard and dense bone, 0.5 ~ 1mm of extra drill depth is needed to prevent the implant apex from hitting the floor and causing micro-fractures between the threads.
- When malleting is used to form the hole, allow for 4~5 months of healing before loading.