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Aligner Non-Attachment



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What is the Clear Aligner Appliance?





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Clear Aligner appliance involves a series of aligners made from a transparent, thin (typically less than 1 mm) plastic material formed with CAD-CAM laboratory techniques. These aligners are similar to the splints that cover the clinical crowns and the marginal gingiva. Each aligner is designed to move the teeth a maximum of about 0.25 to 0.3 mm over a 2-week period, and is worn in a specific sequence.

The Clear Aligner appliance is currently recommended for adults and for adolescents with fully erupted permanent teeth who meet an acceptable standard of compliance.

Excellent compliance is mandatory since the appliance has to be worn a minimum of 20 to 22 hours a day and each aligner should be worn 400 hours to be effective.





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Customization of Orthodontic Appliances





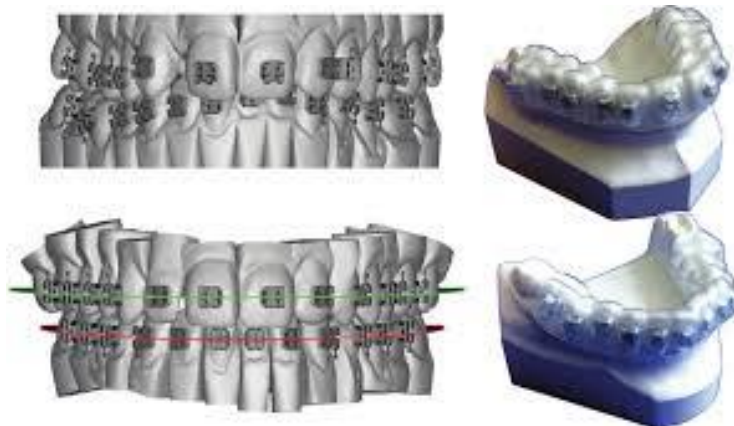
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What characterized the 21st century is the ability to produce Customized Ortho appliances, through utilization of the new three-dimensional technology in the design and production process allows manufacturers to produce appliances individualized to each patient.

Customized systems allow orthodontists to initiate treatment with the final goal in mind, and streamline mechanics towards a pre-established result.

These techniques start by creating a setup of the desired outcome that serves as a diagnostic aid and is used for appliance fabrication.





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Benefits of Ocean Aligners





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1. CLEAR, HENCE INVISIBLE.





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2. COMFORTABLE

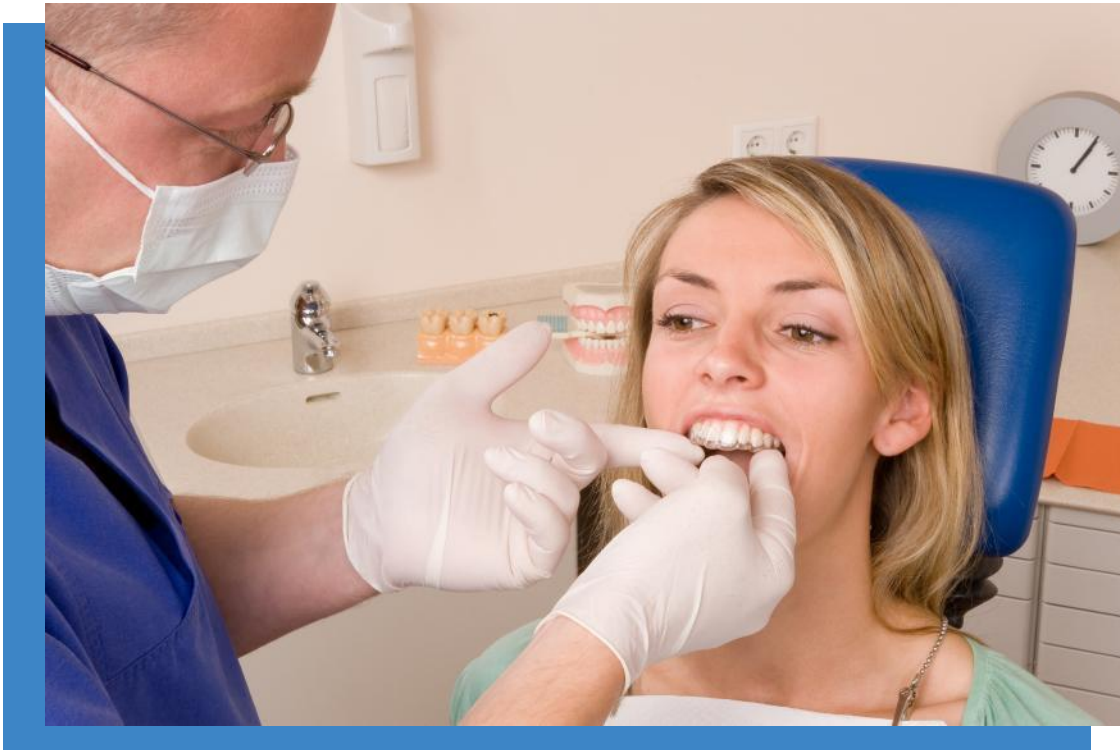




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- 3. NO RISK OF ANY EMERGENCY,
CUTS & SORES
- 4. LESS NUMBER OF VISITS REQUIRED





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5. HIGHLY PRECISE TOOTH MOVEMENTS BASED ON DIGITAL TECHNOLOGY & SCIENTIFIC PROCESS.





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6. PREDICTABLE RESULTS VISUALIZATION EVEN BEFORE TREATMENT STARTS

We can tell the patient exact location of his each & every tooth at any stage of treatment even before the treatment starts. Patient will beforehand know the exact no. of days his treatment will last.





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ALIGNER FAQs





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1. An appointment is required for impression making
2. Aligners take ~4 weeks to process after impression
3. Treatment comprises of a series of aligners containing 7-25 sets and approximate treatment duration is 6-24 months depending on complexity of the case.
4. Each set (i.e. upper + lower aligner) has to be worn for 2 weeks.
5. Aligners should be worn all throughout the day and removed only during eating & brushing.

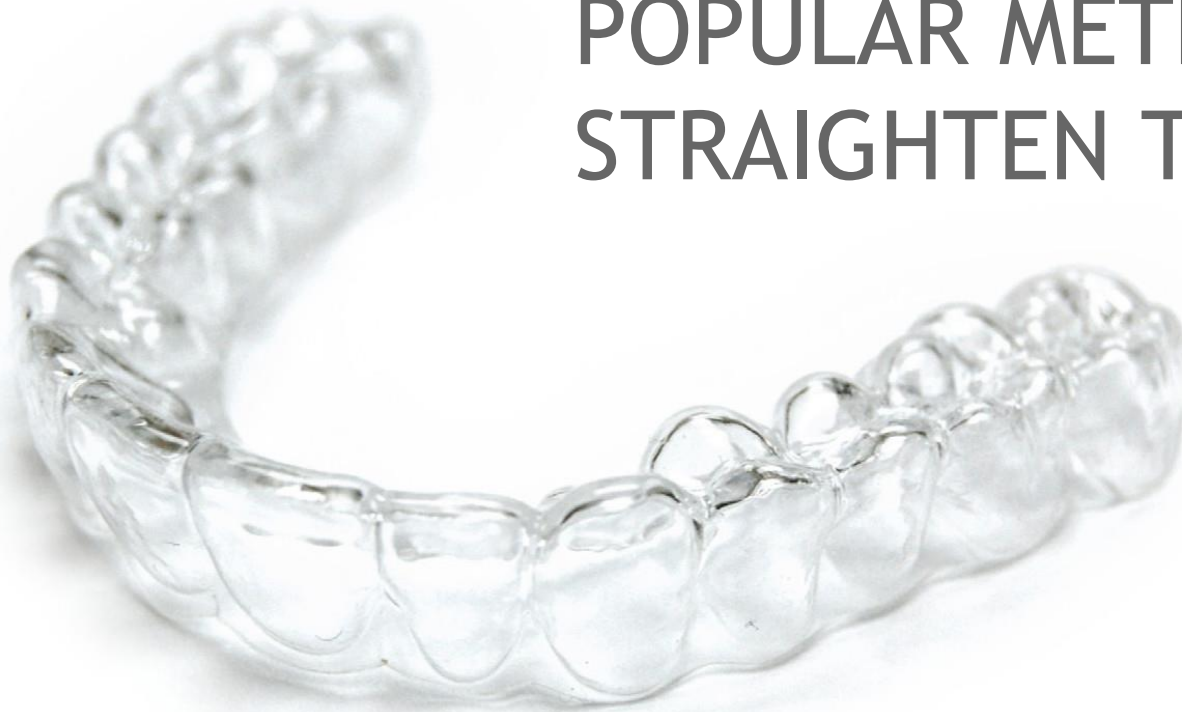




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COMPARISON OF POPULAR METHODS TO STRAIGHTEN TEETH






















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	 ocean Orthodontic Clear Effective Aligner Non-Attachment	METAL BRACES	CERAMIC BRACES	LINGUAL BRACES
ALMOST INVISIBLE				
REMOVABLE SO THAT YOU CAN EAT MOST FOODS				
NO METAL OR TEETH ATTACHMENTS THAT IRRITATE THE MOUTH, CHEEKS & LIPS				
ABLE TO BRUSH AND FLOSS NORMALLY DURING TREATMENT. (Ease of Oral Hygiene)				
COMPUTER TECHNOLOGY TO SHOW PREDICTED POST TREATMENT RESULTS				



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Ocean VS OTHER ALIGNERS



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Which Clear aligner system

- CAD/CAM Vs. manual
- Mid course adjustment & refinement
- Delivery door to door
- Clinician involvement in Planning
- Communication

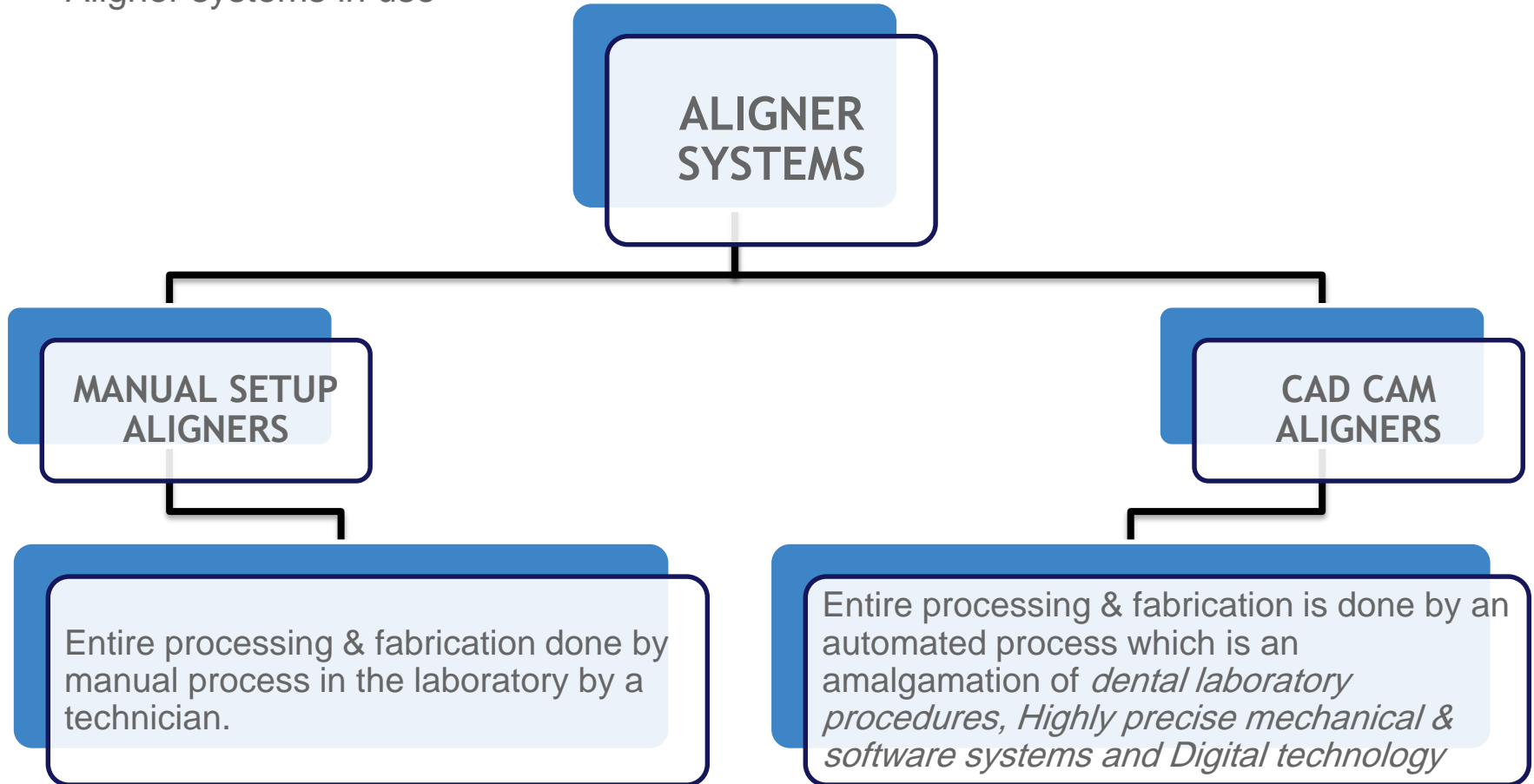




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Aligner systems in use





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EXAMPLES

MANUAL SETUP ALIGNERS

Conventional Laboratory
Biostar Technique

Dr Kim's Clear Aligner
International

CAD CAM ALIGNERS

Invisalign



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COMPARISON

MANUAL / ESSIX ALIGNERS

1. Non Predictable
2. Suitable only as retainers and not fit for carrying out active tooth movement
3. Multiple impressions required
4. More chair side time
5. Imprecise & inaccurate procedure
6. Cannot treat complex malocclusions
7. High dependence on technician
8. Can not match the clarity & finish of CAD/CAM aligners
9. Made by ONLY vaccum forming hence thick, inaccurate and not snug fitting.

CAD CAM ALIGNERS

1. Predictable and can accurately show the results of treatment and exact no. of aligners even before the treatment starts !
2. Only 1 impression required in the beginning
3. Only 10 minutes of chair side time required per 6 weeks per patient
4. Highly precise, automated & sophisticated procedure
5. Can treat all varieties of cases, including extraction cases, crossbites, rotations, edge to edge, bi-max etc.
6. Aligner quality, clarity and finish are unmatched
7. Made by vaccum forming as well as POSITIVE PRESSURE technique.



COMPARISON BETWEEN Ocean ALIGNERS & OTHER ALIGNERS

	Ocean aligners	Other aligners
Clear	Ocean aligners are very clear and are nearly visible	Other aligners are not that clear
Original physical data	Ocean uses original physical data obtained from the impressions	Others use digital data to make aligners
Actual gum tissue	Ocean uses cast teeth and gum tissues obtained from the impressions to make aligners so they are more custom fit	Others use artificial/digital gum tissues which can not be as accurate as the original gum tissue
Snug fitting	They are snug fitting	Others do not fit snugly
Actual IPR	IPR is performed on actual casts on which aligners are made	Virtual IPR is done on digital models
Smooth and Custom fit	Each aligner is manually finished which gives smoothness and are custom fit	Others trim and finish with CNC machines which does not give a smooth finish and custom fit



COMPARISON BETWEEN Ocean ALIGNERS & OTHER ALIGNERS

	Ocean aligners	Other aligners
Faster turn around time	*Faster at Ocean	Its longer with other companies
Type of tooth movement at any particular stage	Only one type of movement is given to a tooth in any particular aligner by which results are more realistic	More than one type of movement is given to a tooth in any particular aligner
More control over treatment	If you choose 5 aligners treatment then you can always change the course of treatment	You don't have full control over the treatment as whole batch of aligners are shipped altogether
Aligner material	Raintree Essix material is used	Some use customized material to manufacture their aligners
Only one time PVS impression	Only one PVS impression is required to process the whole case	Some aligner companies need multiple impressions
Doctors are aware of the type of movement	With the help of Movement Record	Movement given at other companies is not specific so doctors are not aware of the type of movement

**Excluding shipping and holidays.*



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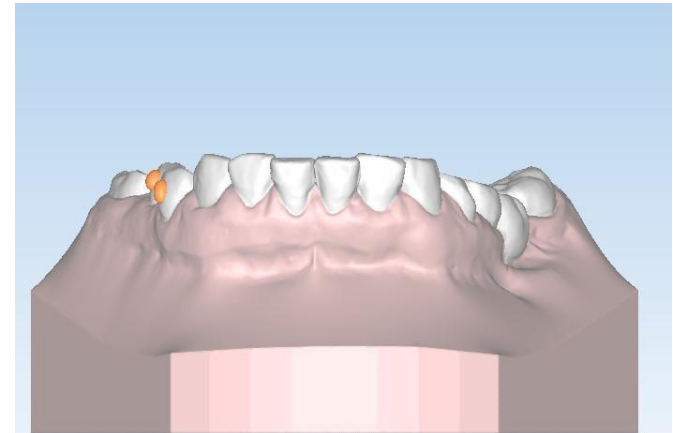
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**Movement Record
Form**

Patient Name: Mrs. Haya

Doctor Name: Taha al Kabi

Stg. #	Upper Right								Upper Left							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1																
2								BTP	BTP							
3									BTR	BTP	BTP					
4									BTP	BTR	BTP	MRO				
5									BTR	BTP	BTR	MRO				
6						BTP	BTP	BTR			BTP					
7									DRO	BTR	BTP	MRO				
8									BTP	DRO	BTP		MRO			
9									BTR	DRO			LTP	BTP		
10									BTR	BTP	DRO			BTP		
11										BTR	BTP		LTR			
12										BTP	BTR	BTP		LTP		
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Reboots	Number of reboots are very less because of unique process	More chances of reboots

**Excluding shipping and holidays.*

Why Ocean aligners DO NOT require attachments?

Purpose of auxiliaries (Attachment):

1. Retention
2. Vertical & unpredictable movements

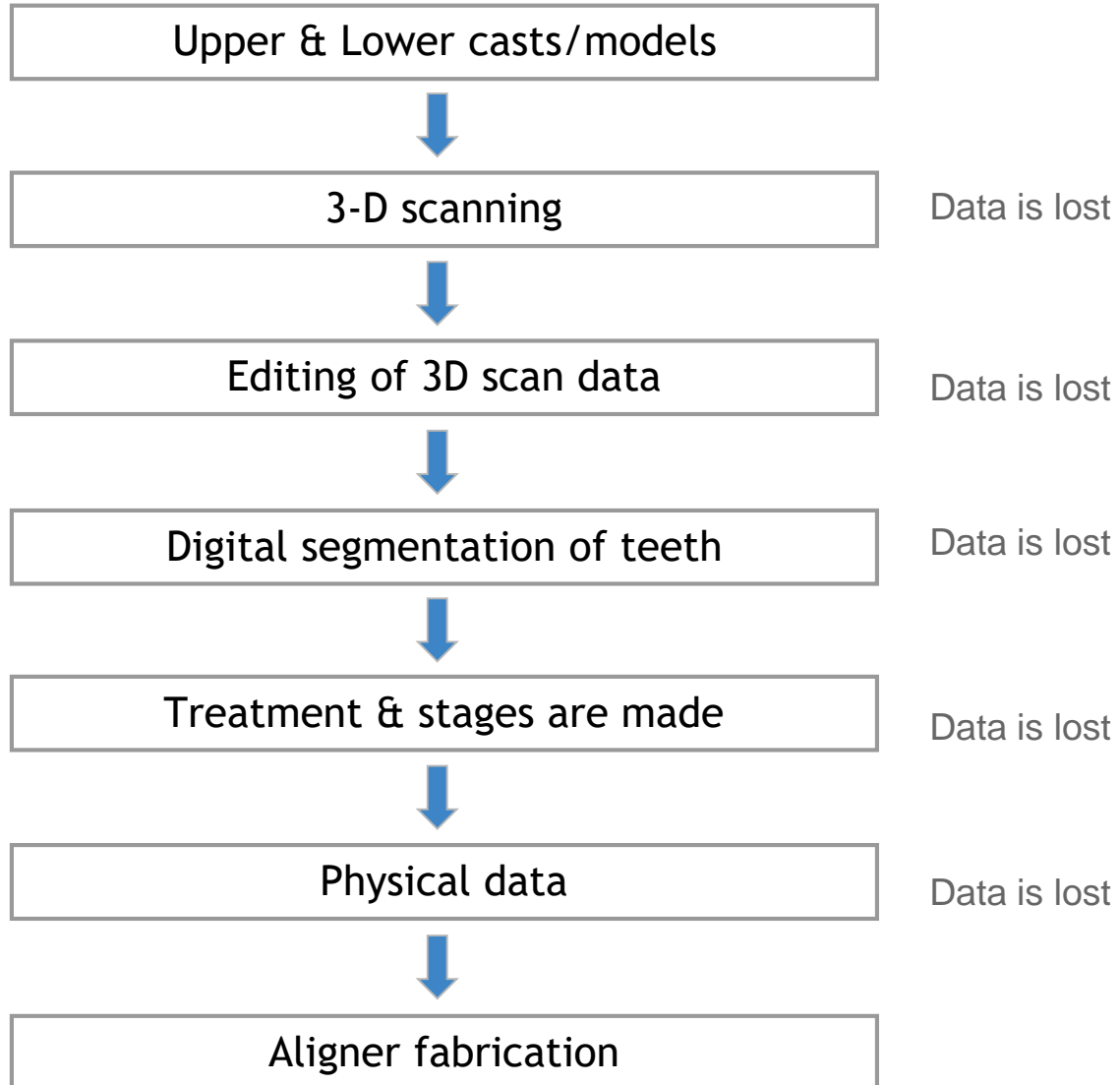




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Other's process

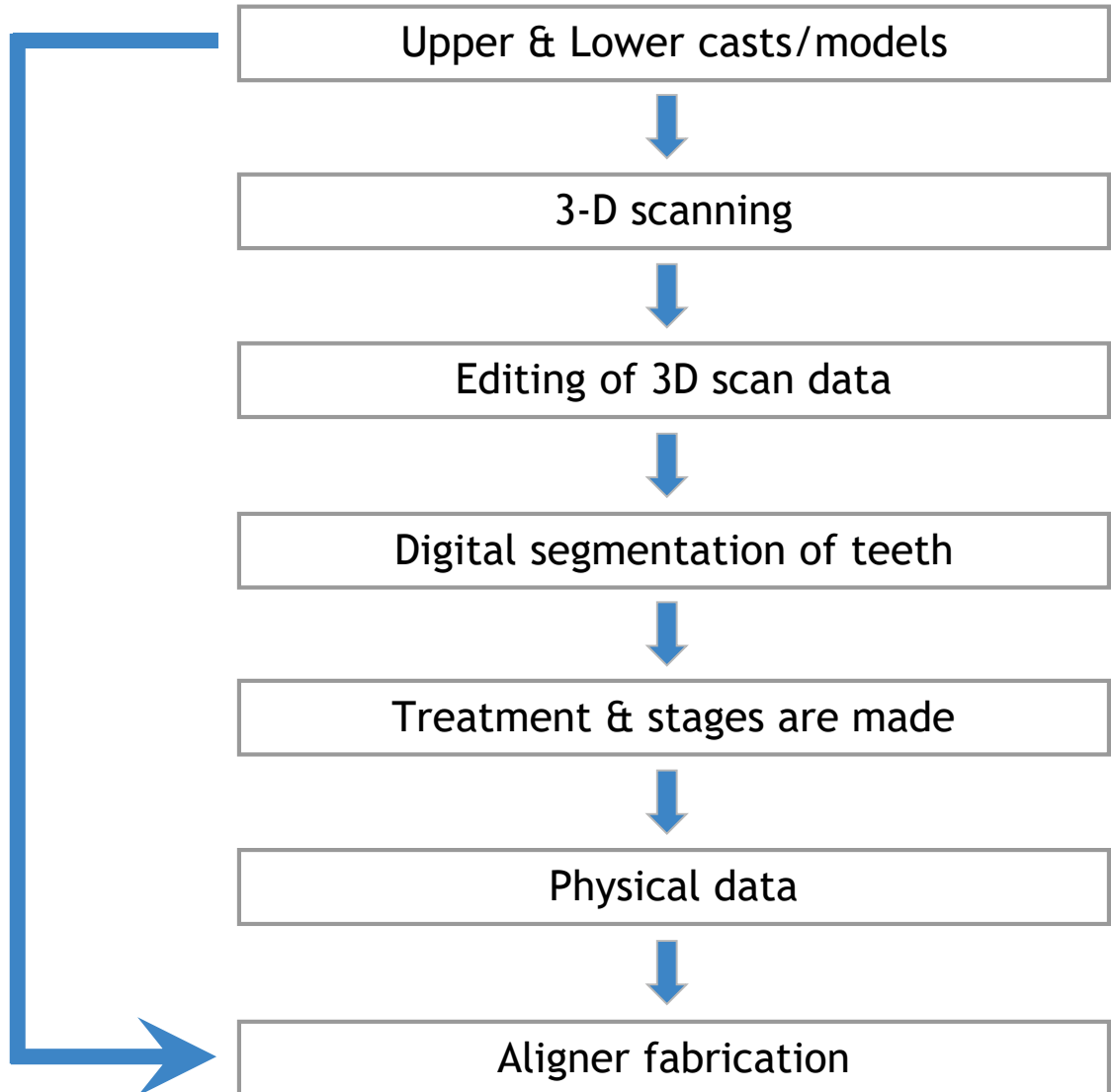




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Ocean process

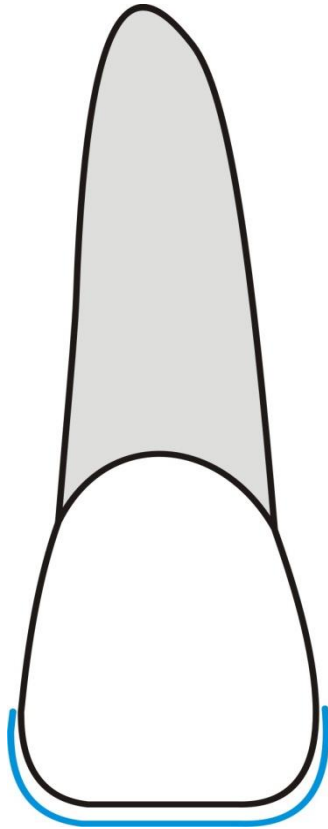




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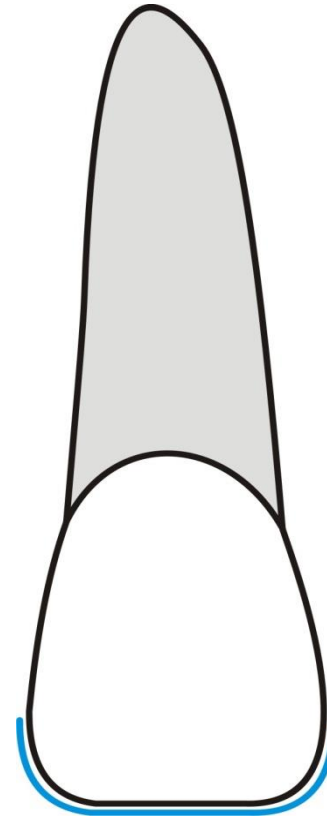
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Hence the SNUG FIT



A

Other Aligners



B

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Attachment

- *What are they used for?*

Active use:

- *Difficult rotations:*
- *Root control.*
- *Extrusion, Intrusion.*

- **Passive use:**

- Retention in strong expansion or retraction movements.
- Retention in short crown height

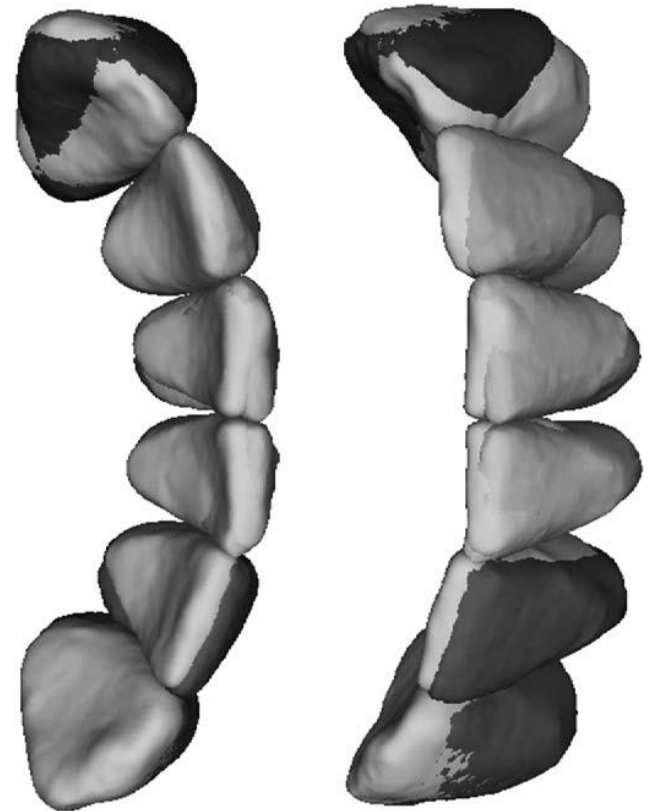


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Kravitz et al., 2008 Conclusions:

Attachments do not significantly improve the accuracy of canine rotation with the Clear aligner system.





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Literature Review

- Uncorrected rotations one of the most problems
- Overall accuracy is 39% (Nguyen & Cheng)

Possible Solutions

- labial and lingual attachments
- 10% overcorrection (Boyd, 07)
- Thermopliers (Kuo, 06)
- Avoid rotation more than 20
- Slower rate of movement - 0.1 mm