The *Clin*-Checklist

by

To learn more about these modules, go to www.InvisalignDrs.com and click on the "Clin-Checklist" menu. There is additional learning content in various formats including PowerPoint video tutorials. New users will need to register for a free membership to view this content.

1. Clinical preferences:

Are your Invisalign® clinical preferences on your home page up to date?

- Go to your doctor home page and open your doctor preferences pages. Be sure to update item 16, special instructions.

2. Virtual Mount:

Is the patient's bite correct in Clincheck®?

- The virtual mount is the articulation of the dental arches in Clincheck® before any tooth movements have occurred.
- Compare photos to the Clincheck® to determine if the technician has mounted the case correctly.
- Make sure all erupted teeth are covered with plastic.

3. Arch Development:

Are the dental arches developed properly?

- **Reshaping the arches.** Tapered, Omega or Square forms need to be reshaped into ovoid form.
- **Expansion.** Expand narrow arches. Average transverse measurement = 33-37mm.
- **Leveling the curve of Wilson.** Correct lingual crown tip of posterior teeth.
- **Alignment of teeth.** Consider using Hinge Axis (Hinge-out) mechanics for anterior rotations. Create temporary space and delay rotations until this space exists.

- **Leveling the Curve of Spee.** Overtreat anterior if intrusion > 2mm. Add posterior attachments to anchor the aligners.

4. Overbite:

Is this a deep bite (Overbite > 2mm) case?

4 possible components for deep bite correction.

- *Leveling the Curve of Wilson:* Upright lingually tipped posterior teeth.
- *Leveling the Curve of Spee:* Overtreat anterior intrusion > 2mm.
- *Posterior aligner anchorage* to prevent slippage during anterior intrusion. Add Horizontal-Beveled-Incisal (Occlusal) attachments to 2nd premolar or 1st molars.
- *Proclination of retroclined anterior teeth*. Correct anterior lingual crown tip.

5. Overjet:

Does the overjet in Clincheck® need modification?

Incorporate 1-2mm of overjet in Clincheck®

- This will lower the risk of developing premature anterior contacts and a posterior open bite.
- If IPR is added for the sole reason to create this overjet, add the IPR in the later stages. Then you assess the patient's occlusion and decide if the IPR is needed.

6. Class II cases:

Does your patient have a class II malocclusion?

Treatment goals for *non-growing* class II cases:

- Improve but not necessarily fully correct the molar and cuspid AP discrepancy.
- Create arch space for alignment, midline correction, and anterior retraction.
- Improve function.

Treatment goals for *growing* class II cases:

- Attempt to fully correct the molar and cuspid AP discrepancy.
- Create arch space for alignment, midline correction, and anterior retraction.
- Improve function.

Protocol options available for class II treatment:

- Distalization (sequential): Maximum distalization = 4 mm. Perform mesial-out rotation of the upper 1st molars. Extract upper wisdom teeth present. Use class II elastics. Be prepared for long treatment times.
- IPR: Develop the arches before adding any IPR. Consider posterior IPR before adding distalization. Posterior IPR will improve the cuspid relationship.
- Elastics: Class II elastics are mandatory for distalization cases. They provide anchorage which will maximize the effect of the distalization. Full-time use as indicated during the distalization process.
- Bite Ramps: Use virtual bite ramps when performing distalization. If excessive overjet prevents ramps from being used with teeth 7 – 10, use cuspid ramps. Posterior disocclusion while the aligners are being worn can assist with posterior tooth movements.

7. Root Torque:

Does this case need additional root torque in Clincheck®?

- Add additional lingual torque in cases where there is noticeable retroclination (lingual crown tip) of anterior teeth.
- Request constant lingual root torque in spacing cases where anterior teeth are being retracted.
- Request additional labial root torque in cases where anterior are being proclined.

8. Spacing cases:

Do you want to close or redistribute the space?

- Determine the reason for the spacing. *Tooth size discrepancy, Proclined or flared anterior teeth, Missing teeth or a combination of these.*
- Decide how you are going to close the space. *Translation* or *Retraction*
- Include *virtual C-chain* aligners at the end. Apply these even if spaces appear closed.
- Retention: Order Vivera retainers from the stage *after* chains have been used. This incorporates over correction in your retainers. Carefully check for *slight*

anterior interferences and perform equilibration as needed. Stress retainer compliance with patient. Consider bonded lingual retainers in addition to Vivera.

9. Interproximal Reduction (IPR):

Is IPR needed?

- Anterior IPR or posterior IPR?
- Stage IPR when teeth are aligned.
- Avoid IPR in sites where there are Emax or Zirconia crowns.
- IPR may be used to reduce black triangles.
- Add Virtual C Chains to close residual anterior spaces.

10. Attachments

Do you need to change, remove or add attachments?

- Use Rectangular-Horizontal-Beveled-Gingival attachments for extrusions.
- Use Rectangular-Horizontal-Beveled-Incisal attachments for intrusion or anchorage in deep bite cases.
- Use Vertical-Beveled attachments for rotations, crown tip (mesial or distal), and translation.
- Upper laterals: add attachments to improve tracking
- Avoid attachments on crowned teeth if possible.
- Consider using larger attachments.

11. Tooth Movements

- Check tooth movements before approving a ClinCheck. Use 3D controls to check and “click down” movement values if possible. This is especially recommended for posterior tooth movements that move the root apices.
- Here are general *posterior* movement guidelines we recommend.
    - Posterior Intrusion/extrusion = $\leq$.2mm
    - Posterior translation B/L = $\leq$2.0mm
    - Posterior translation M/D = $\leq$2.0mm
    - Posterior rotations: reduce the degree of rotation as much as possible without compromising outcome. There is no target value, however

lowering any movement values can increase the outcome predictability. Rotations do not reposition root apices and therefore are not as difficult.

- Posterior crown angulation change (M/D) = $\leq$ 2 degrees.
- Posterior root torque (B/L) = $\leq$ 2 degrees.
- Posterior crown tip (B/L). We recommend using crown tip movements to change the buccal-lingual angulation of teeth whenever possible. This movement is predictable because the root apex (apices) is not moved. Crown tip movements over 2 degrees are ok. *Note that the 3D tool bar displays the change in B/L angulation but does not distinguish root torque from crown tip.* Hopefully they will correct this with a future update.

12. Bite ramps

Do you want to add bite ramps?

- When there is anterior intrusion and/or posterior extrusion.
- When treating a posterior x-bite and/or posterior expansion.
- When performing molar distalization for class II treatment, consider including cuspid ramps on 6 and 11. This prevents the patient from biting behind the ramps and creating undesirable upper anterior proclination.
- Add bite ramps to patients who have a history of clenching and grinding their teeth.

13. Posterior Open Bite (POB)?

Consider these points to prevent POB.

- Leave 1-2mm of overjet, in Clincheck®, at the end of treatment. This will help prevent premature anterior contacts which may cause the POB.
- Over treat deep bite correction, set the final overbite at .5mm (with centrals) in Clincheck®.
- Add additional torque in cases where you see retroclination. Over program the lingual root torque in Clincheck®.
- Add bite ramps to patients who have a history of clenching and grinding their teeth.

Here are some tips to resolve a POB.

- If the posterior open contacts are 1 mm or less, consider allowing time for natural settling combined with equilibration.
- In bilateral POB cases, you can cut the aligners distal to the cuspid teeth. Allow about 4 to 6 weeks of settling, consider equilibration, and then take records to finish the case.
- If there are *premature anterior contacts*, request additional aligners with an *anterior open bite*. Over program the anterior open bite into the Clincheck®. Request a bite closure simulation showing the effect of removing the premature anterior contacts.