

CASE SELECTION FOR CLEAR ALIGNERS

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Clear aligners are a useful and often requested treatment modality for use in modern dental practice. Patients love the convenience of having a clear, removable orthodontic solution as opposed to more traditional wires and brackets. However, clear aligners are not suitable for every patient that walks in through our clinic doors.

HOW DO WE BEGIN TO SELECT CASES THAT WILL WORK PREDICTABLY FOR GDPS AND WHAT ARE THE CASES TO AVOID?

Planning for treatment success is often challenging as predictability varies from case to case. It can be difficult to identify the most important factors that would impact achieving predictable levels of patient satisfaction. For dentists with less clear aligner experience, Active Aligners preload protocols into the treatment planning system to help weed out those cases that are unlikely to be predictable. Embarking on clear aligner treatment provision need not be daunting. We hope we can help you select appropriate cases to start your journey.

It is essential to select the cases that are likely to work and bring satisfaction to our patients. We can only achieve this through identification and management of realistic patient expectations and abiding by accepted orthodontic principles. Don't let your patient's aligner fatigue dictate the end point of your next case.

"Initially, carefully select the cases for clear aligners that are likely to succeed. Once you have several cases successfully treated, you can then consider taking on more complex cases."

When considering clear aligner treatment (CAT), factors that are imperative to assess at the outset are the presence of primary dental

disease including any pathology, defects in root morphology and so on. Take appropriate radiographs and treat all primary conditions to avoid future problem. With primary dental disease, stabilisation is the keystone to treatment success. If aberrant root morphology, see Figure 1 (e.g. resorption, deviations or open apices) or peri-apical pathology (e.g. lesions) are observed, think carefully about proceeding.

TRAFFIC LIGHTS

Think of it in terms of green, amber and red traffic lights.

- Green means suitable for treatment.....
- Amber means there are limiting factors to carefully consider.....
- For the Red cases, listen to your alarm bells, they are ringing for good reason. If a case is too challenging for clear aligners, do you really want to manage the situation where your patient's mounting dissatisfaction and continued frustration weighs heavily on your clinical conscience?

The following are some mini case studies to highlight the clinical judgement and decision making processes behind our perspective on case selection. All disappointment is due to unmet expectations.



Figure 1: Root resorption identified by radiographic examination



Figure 2: Composite attachments in situ



Figure 3: Moderate arch collapse

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Perhaps the most common case recommended for dentists who are beginning their clear aligner journey is the treatment of mild anterior crowding. The simpler the case, the more likely it is to succeed. Cases of mild anterior crowding are ideal for short course clear aligner orthodontics where more complex reorganisation is not required. Simple or complex cases may require

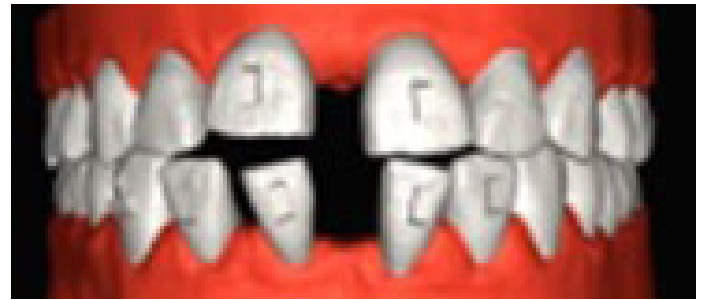
composite attachments and perhaps IPR (Figure 2). Active Aligners provide a comprehensive treatment plan for targeted attachment placement and an IPR map. Follow the treatment plan. Use the template provided to place the composite attachments.



Figures 4a and 4b: Crossbite pre-treatment



Figures 5a and 5b: Crossbite post-treatment



Figures 6a and 6b: Post periodontal treatment image and smile simulation start point



Figure 7: Post-treatment image

Top tip: ideally use a good quality flowable material so that attachments are straightforward to place and adjust.

If IPR is indicated, ensure the correct depth/volume is achieved. Errors here can have tracking implications later. Not leaving sufficient space for the teeth to move can result in the patient having a compromised outcome.

Top tip: use an IPR gauge to accurately measure the space.

In Figure 3, moderate arch collapse as well as significant crowding will necessitate multiple attachments as well as IPR. These cases should be attempted only after gaining suitable experience with simpler cases to get accustomed to IPR and attachments. Monitoring of these cases is imperative to

ensure tracking and that sufficient IPR has been performed. Managing patient expectations with these cases is vital as a “perceived perfect” result is often difficult to achieve. Smile enhancement can meet the patient’s expectations if they are forewarned about the predicted results.

Figures 4 and 5 show a simple example of lateral incisors in crossbite. When the aligners are in situ, they can confer enough

bite opening to separate the occlusion so as to move the teeth 'over the bite'. The correction will be a relief to the patient both aesthetically and functionally. This is a good example of smile enhancement through single arch treatment.

Top tip: consider the conservative nature of moving teeth rather than invasive restorative procedures.



Figures 8a and 8b: Upper palatal canine pre-treatment image and intraoral scan



Figures 9a and 9b: Fixed orthodontics for correction of displaced canine

The treatment and stabilisation of periodontal disease (often by a multidisciplinary team) can open up the possibility for cosmetic alignment (Figure 6). This case can cause alarm at first glance. The successful treatment of primary dental disease (periodontal disease in this case) has opened up the possibility of cosmetic tooth alignment. However, care must be taken to ensure appropriate periodontal treatment has been successfully completed and that the patient is effective and consistent with their ongoing dental care (Figure 7). Keep in mind appropriate retention for these cases as relapse is a major long term risk.

Top tip: relapse is a major long term risk, so discuss retention options prior to embarking on treatment.

Therapies that clear aligners are best suited for

- Class I malocclusions with minimal overbite
- Lower anterior relapse
- Mild-moderate crowding/ spacing
- Mild-moderate rotations
- Pseudo Class III/edge-to-edge malocclusions with mild-moderate crowding
- Mild-moderate anterior open bite malocclusions with mild-moderate crowding and overjet

Therapies that clear aligners are generally contraindicated for

- Severe crowding
- Skeletal discrepancies
- Functional shifts
- Severe rotations or tipping particularly canines
- Molar up righting and closure of premolar extraction spaces
- Teeth with short clinical crowns

Table 1: examples of case selection for clear aligners

There are occasions when the patient will request clear aligners and attempt to convince you that this would be the preferred treatment for them. Make your own independent assessment before being coerced into providing treatment that might go against your clinical judgement.

The displaced palatal canine represents a case of extreme difficulty (Figures 8 and 9). Aligners will mainly tip teeth and be able to correct more minor discrepancies. Conventional orthodontics is required for bodily movement of teeth. At the end of fixed orthodontic treatment, clear aligners can be used to 'finish the case'. This improves patient satisfaction and can control the final outcome with digital planning.

Top tip: consider using aligners to finish fixed orthodontic cases.

If a case is unlikely to succeed, then it is much more pragmatic to refer to a more experienced orthodontic specialist colleague rather than nursing the headache of a case where patient satisfaction is continually elusive or un-achievable.

Examples of case types in which clear aligners should be avoided include:

- Malocclusions that require orthognathic surgery (one or two jaws)
- Premolar extraction cases with moderate-severe crowding
- Class I deep overbite/Class II Division 2 deep overbite cases with crowding.

WHY USE ACTIVE ALIGNERS?

Drawing on the results of thousands of clear aligner treatments, Active Aligners has established treatment planning protocols to enhance the likelihood of treatment success. An expert team of orthodontists and technicians help to establish parameters to aid you in your case selection.

What this means for you is that if a case is deemed as too complex or unlikely to succeed, the treatment plan will come back as a rejection or be flagged as predicting a compromised result.

Our aim is to help clinicians achieve successful results. That's why the company ethos is "For dentists, by dentists" with a caring and conscientious know-how that is beyond compare. We will support you directly, respond to your queries, even provide training in your practice. Try us out and see the Active Aligners difference. For more information simply visit www.activealigners.co.uk or call us on 0207 307 5959. ●