

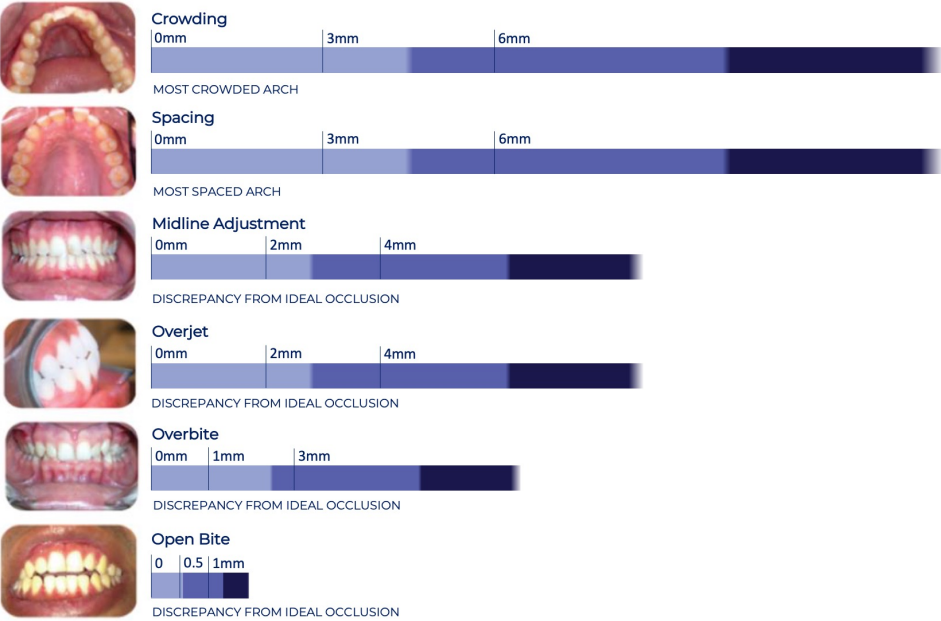
# Movement Difficulty Classification Guidelines

The following Movement Difficulty Classification Guidelines are intended as a guide only. Each case needs to be assessed on its own merits. Teeth movement can be unpredictable and various factors including anatomy and patient compliance may affect the duration and effectiveness of treatment.

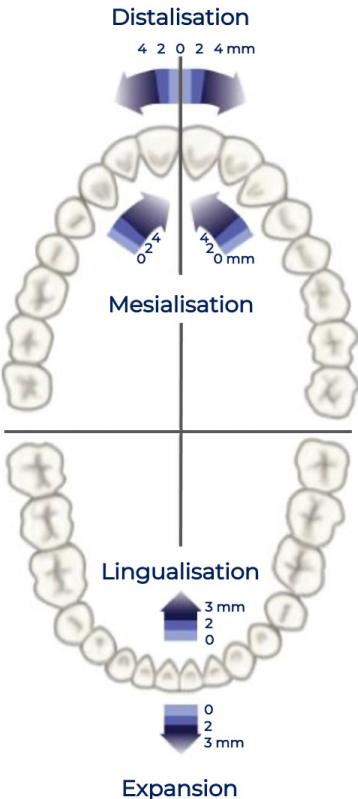
Occasionally, cases within recommended parameters may not be treated successfully and other cases may require more than the allotted number of aligners. It is important to balance the patients expectations of optimal outcome with potential limitations and complications.

With more difficult cases refinements may be required due to limited movement, and it is advised the patient has longer periods of aligner wear and has closer monitoring.

## Types of Malocclusions



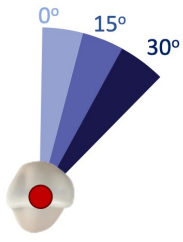
## Types of Movements



To estimate of the level of complexity calculate the total amount of arch movement expected in each quadrant.

Directional Movement

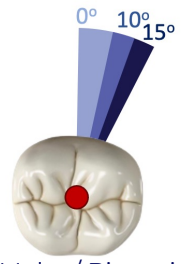
Rotation:



Incisors

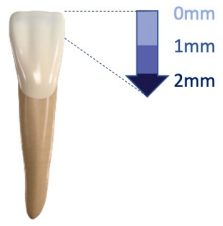


Canines

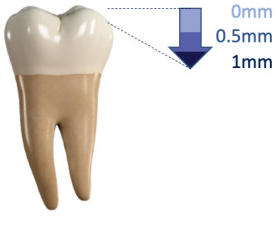


Molar / Bicuspids

Intrusion:

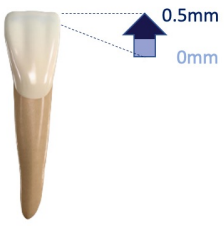


Anterior



Posterior

Extrusion:



Anterior



Posterior

Intrusion:



Anterior



Posterior

Mesial-distal tipping:



Anterior



Posterior

Torquing:

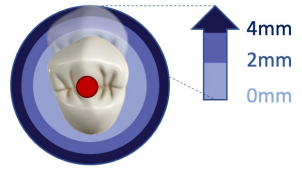


Anterior



Posterior

Translation:



Anterior / Posterior

# Movement Difficulty Classification Guidelines Summary

Cases that have the following conditions can be difficult or impossible to treat with clear aligners:

- Any type, method, or movement indicated as difficult in the Movement Difficulty Classification Guidelines;
- Centric-relation and centric-occlusion discrepancies;
- Teeth with short clinical crowns;
- Arches with multiple missing teeth;
- If the second molars have not yet erupted;
- Poor oral hygiene or active periodontal disease;
- Dental prosthetics or implants; and/or
- Severe bruxism.

Tooth Movements	Easy	Moderate	Difficult
<b>Facial-lingual tipping</b>			
Anterior	0 - 10°	10 - 20°	> 20°
Posterior	0 - 10°	10 - 20°	> 20°
<b>Mesial-distal tipping</b>			
Anterior	0 - 10°	10 - 15°	> 15°
Posterior	0 - 10°	10 - 15°	> 15°
<b>Root tipping</b>			
Anterior	0 - 10°	10 - 15°	> 15°
Posterior	0 - 5°	5 - 10°	> 10°
<b>Rotations</b>			
Incisors	0 - 15°	15 - 30°	> 30°
Canines	0 - 10°	10 - 20°	> 20°
Molar/Bicuspid	0 - 10°	10 - 15°	> 15°
<b>Translation</b>			
Anterior/Posterior	0 - 2mm	2 - 4mm	> 4mm
<b>Torquing</b>			
Anterior	0 - 10°	10 - 15°	> 15°
Posterior	0 - 5°	5 - 10°	> 10°
<b>Intrusion</b>			
Anterior	0 - 1mm	1 - 2mm	> 2mm
Posterior	0 - 0.5mm	0.5 - 1mm	> 1mm
<b>Extrusion</b>			
Anterior	NA	0 - 0.5mm	> 0.5mm
Posterior	NA	0 - 0.5mm	> 0.5mm

Methods (mm)	Easy	Moderate	Difficult
Distalisation	0 - 2	2 - 4	> 4
Mesialisation	0 - 2	2 - 4	> 4
Lingualisation	0 - 2	2 - 3	> 3
Expansion	0 - 2	2 - 3	> 3

Malocclusion (mm)	Easy	Moderate	Difficult
Crowding	0 - 3	3 - 6	> 6
Spacing	0 - 3	3 - 6	> 6
Midline misalignment	0 - 2	2 - 4	> 4
Overjet	0 - 2	2 - 4	> 4
Overbite	0 - 1	1 - 3	> 3
Open bite	0 - 0.5	0.5 - 1	> 1

Movement Difficulty Summary	Viability
Facial-lingual movements	Simple
Root tipping	Simple
Mesial-distal movements	Moderate
Translation	Moderate
Retraction (Lingualisation)	Moderate
Mesialisation (Protraction)	Moderate
Distalisation	Moderate
Most rotations	Moderate
Torqueing	Difficult
Rotation of posterior teeth	Difficult
Intrusions	Difficult
Extrusions	Difficult
Expansion / Constriction	Difficult