

Intraoral Scans: Common Distortions & Required Accuracy

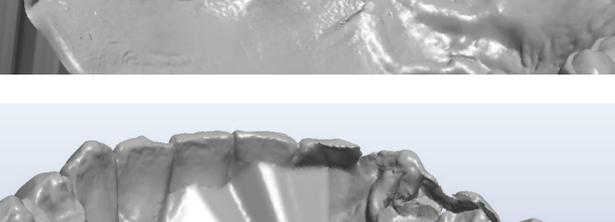
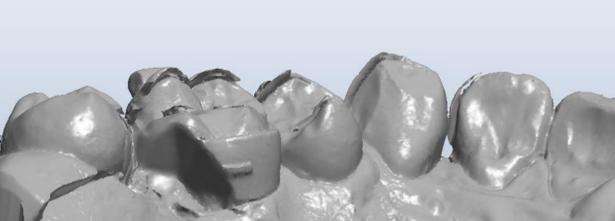
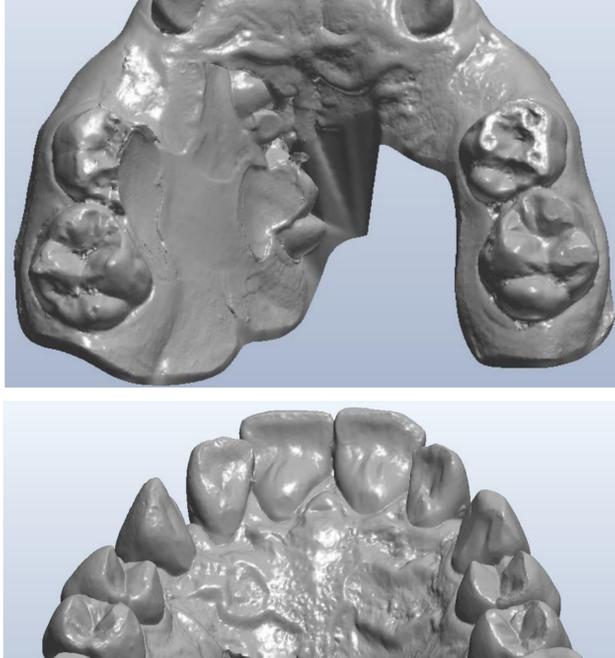
Distortions

There are a number of different types of errors and distortions that can occur during an intraoral scan. We recommend reviewing each scan for inaccuracies before releasing your patient. If distortions or errors are present in the scan, re-scan the patient until you've captured an accurate scan. Depending upon the specific appliance that will be fabricated, some scan issues are more detrimental than others.

General Distortions

A number of occurrences during an intraoral scan can lead to a general distortion in which portions of anatomy can be displaced and/or disfigured. Here are a few examples of general distortions.

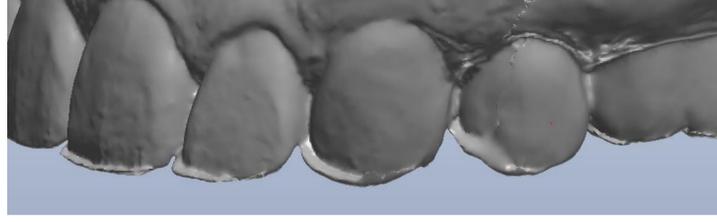
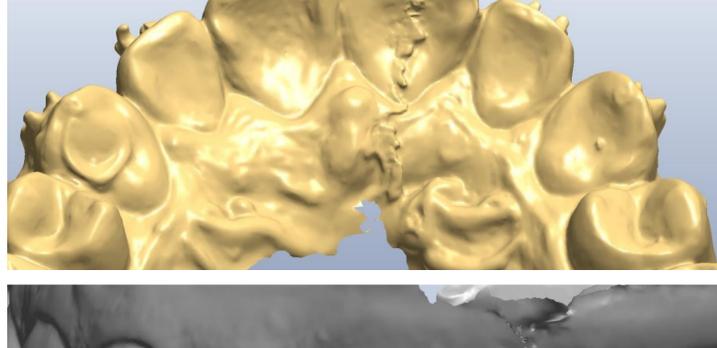
-Solution: Rescan more slowly making sure to fully capture all portions of relevant anatomy.



Misaligned Section & Edges

Your scanner functions by capturing many small “pieces” of information and piecing them together. If a section of anatomy is not captured, the software struggles to accurately piece together the sections on either side of that missing information and the result is a ridged or flanked appearance. When this occurs at the incisal/occlusal edge of a tooth, it's commonly referred to as a “double incisal-edge distortion.”

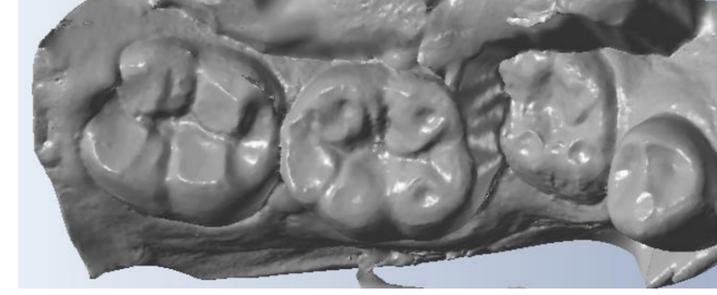
-Solution: Pause more frequently during the scan to ensure that all sections of your patient's anatomy are being captured. This will allow the software to accurately piece each section together.



Anatomical Interferences

This is not exactly a “distortion”; however, it does have the same effect on fabrication that a distortion would. The tongue and cheek anatomy are most often the culprit in anatomical interference scenarios. In order for your scanner to capture accurate information, all anatomy must be exposed however when tongue or cheek tissue shield the dental anatomy, the result is what we refer to as an “anatomical interference” type of scan dilemma.

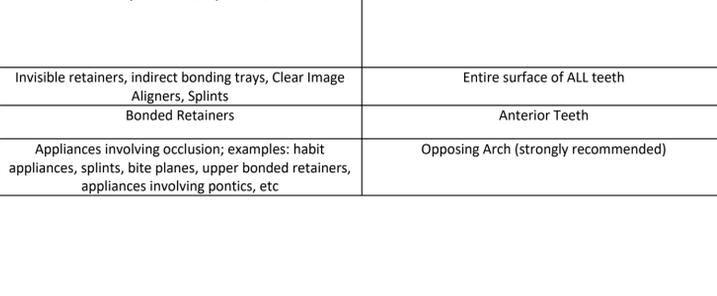
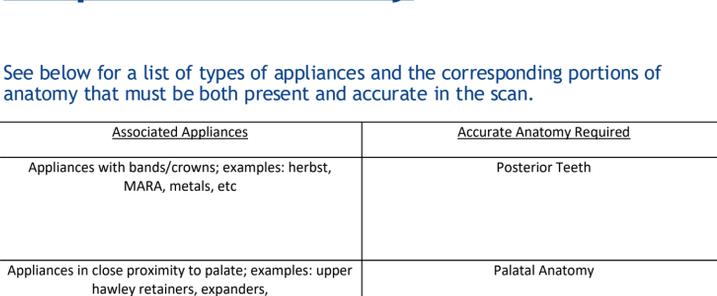
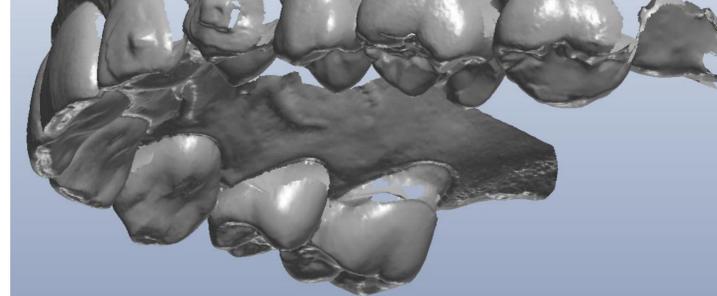
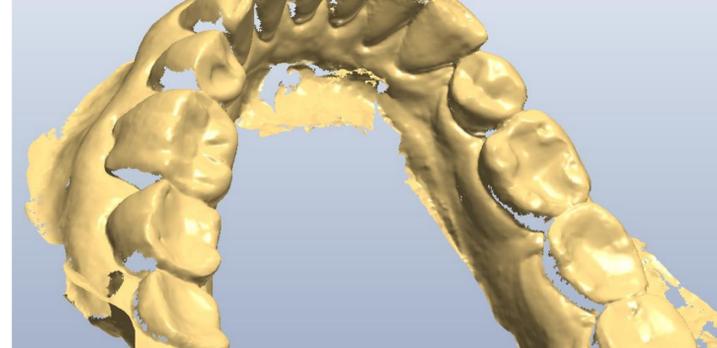
-Solution: Change the way you're holding your patient's cheek or ask your patient to move his/her tongue and re-scan that area again. You may have to re-scan the entire arch depending upon the type of scanner you have.



Missing Information

Sometimes when sections of anatomy aren't captured, the software will leave holes of missing information instead of attempting to piece the scan together.

-Solution: Pause more frequently during the scan to ensure that all sections of your patient's anatomy are being captured.



Required Accuracy

See below for a list of types of appliances and the corresponding portions of anatomy that must be both present and accurate in the scan.

| Associated Appliances | Accurate Anatomy Required |
|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| Appliances with bands/crowns; examples: herbst, MARA, metals, etc | Posterior Teeth |
| Appliances in close proximity to palate; examples: upper hawley retainers, expanders, | Palatal Anatomy |
| Invisible retainers, indirect bonding trays, Clear Image Aligners, Splints | Entire surface of ALL teeth |
| Bonded Retainers | Anterior Teeth |
| Appliances involving occlusion; examples: habit appliances, splints, bite planes, upper bonded retainers, appliances involving pontics, etc | Opposing Arch (strongly recommended) |