Assessment Stage

Take a comprehensive history and clinical examination

Extra-oral:
- Smile line
- Symmetry
- Incisal show
- Speech
- Skeletal pattern
- OVD/RVD
- Freeway space
- TMJ palpation

Intra-oral:
- Occlusion
- Excursions (lateral and protrusive)
- Guidances (canine and group)
- Periodontal status
- Caries status
- Overeruption
- Shade and shape
- Interocclusal space
- Adjacent teeth status
- Gingival contour and biotype
- Assess status of any existing restoration(s) - If the status of the restoration(s) is questionable then consider replacement

Take radiographs, photographs, impressions for study models/diagnostic wax-up and any other necessary special investigations e.g. sensibility testing (with consent). Supplement this with a facebow record for multiple crown preparations and teeth involved in guidances

Discuss the shade of the teeth. If replacing upper anterior teeth, consider sending the patient to the lab for more accurate shade taking and mapping

Discuss treatment options, risks, benefits, costs, time taken and longevity

This is for more complex/aesthetically demanding cases or several crown units. Otherwise, this step can be skipped.

Warn the patient that there is a 20-30% risk of devitalisation which would require root canal treatment in the future.
If the tooth is non-vital and previously root canal treated, the patient must be warned of root canal treatment failure risk and a subsequent need for a new crown/onlay

1. Accept and monitor
2. Porcelain fused to metal crown: 1000-1200 Mpa flexural strength. Metal cervical area can become visible due to gingival recession.
3. Zirconia crown: 1200 Mpa flexural strength but more abrasive than metal – avoid in bruxists. Good aesthetics.
4. Lithium disilicate crown: 500 Mpa flexural strength (similar to natural tooth tissue), good aesthetics, different core opacities available.
5. Precious metal crown: 1400 Mpa flexural strength, less abrasive, unsuitable for aesthetic cases.
6. Non-precious metal crown: 1500Mpa flexural strength, less abrasive, unsuitable for aesthetic cases.

Decide on constructing temporary crowns
- Lab made – guidances and occlusion can be more accurately assessed. Used when long term temporisation is required e.g., crown lengthening and full rehab cases
- Chairside – take a sectional silicone impression. Ideal for short term temporisation

For complex cases e.g. long interappointment wait, full mouth rehabilitation and/or crown lengthening, comprehensive planning is required i.e. good communication with the laboratory, diagnostic wax-up construction and lab made temporary restorations.