## Posterior Composite Restoration

This is good practice as patients change their minds and Obtain consent and confirm the tooth to be restored this prevents the wrong tooth from being treated. Using the radiograph, check caries extent A split dam technique is advised for deep proximal and previous restoration status caries and adjacent interproximal caries. Rubber dam can be placed after cavity preparation to prevent tearing of the dam. Mark ICP points with 8-20 micron articulating paper and photograph the occlusal surface. Administer LA if needed and place rubber dam Brown, soft, wet dentine should be removed. Leave dark, hard dentine over the pulpal floor as long as the ADJ is caries free (selective caries removal, MID technique). Gain access to caries with a fast hand piece (see page 94) Indirect pulp cap: Materials of choice includes calcium-silicate dentine substitutes (e.g. Biodentine) and MTA. CaOH has traditionally been used as a liner, Clear the ADJ of caries, preferably with a slow hand piece however, there is low evidence to suggest its use in deep carious lesions is effective in preserving pulp vitality. Biodentine is injected over a deep cavity to the cusp level. Leave for 9-12minutes to allow full set. If there is Use a slow speed hand piece and rose head bur to remove an exposure, it can be left for up to 6months, then cut back and restore softened dentine from the axial walls and pulpal floor with a bonded restoration. Otherwise, a same-day restoration is sufficient. Dry and inspect the cavity. Consider Reduces internal stresses. pulp protection in deep cavities Place etch on enamel, wait 10 secs and extend to dentine for a further 20 secs. Modify the cavity appropriately: round internal 37% phosphoric acid for 30 seconds. Rinse and dry line angles, remove unsupported enamel and with 3 in 1 and suction. Do not desiccate. bevel the cavo-surface margin angle Bond can be 1, 2 or 3 stage (self-etching, primer, adhesive). If a matrix Selective enamel etch the cavity system is needed it can be applied before or after this stage. Place matrix band and wedge of choice (see page 79) Consider the use of a nano-hybrid bulk fill composite for the deeper part of the cavity and build the cusps with conventional composite. Apply bond as per the manufacturer's instructions Use 8-20 micron articulating paper in holders. Compare the occlusion to pre-op photographs. Build up missing walls, then cusps in 2mm increments for complete cure Caries management and restorative techniques within biomimetic dentistry aim to: Cure through glycerine to cure the final oxygen inhibited layer · Preserve tooth vitality · Preserve tooth structure · Increase the bond strength of restorations Check the occlusion and guidances - adjust and polish (with · Reduces sensitivity white stones and rubber wheels) until the patient is happy · Minimise polymerisation contraction stress