Fixed unilateral	Fixed bilateral
Band and loop (B&L) Crown and loop (C&L) Distal end shoe (DES) Direct bonded (DB) Glass fibre Reinforced Composite Resin (GFRCR)	Nance Transpalatal arch (TPA) Lower lingual arch (LLA)
Removable (with wire stops)	
Hawley appliance Removable partial dentures (RPD) Pressure formed retainers (PFR)	

Figure 1: Table of different types of space maintainers

Table 2: Types of space maintainers – clinical indications, advantages and disadvantages.

Space Maintainer	Clinical Indication	Advantages	Disadvantages
Band and Loop[7, 22]	Premature loss of either the first or second primary molar, with a distal abutment tooth available for banding and a loop of wire across the edentulous space.	Can be used with permanent and primary molar banding	Two visits required for fabrication, laboratory expenses, frequent cementation failures, potential to cause soft tissue injury from fixed appliances, first permanent molars can tip mesially more than in bilateral space maintainers
Crown and Loop[22]	Premature loss of primary first molar with a carious primary second molar in need of a crown to restore. Crown is used on abutment tooth instead of band.	Good survival rates and lengths compared to other space maintainers, allows use of heavily restored abutment tooth.	Two visits required for fabrication, laboratory expenses, if failure occurs conversion to band and loop space maintainer over crown is possible, first permanent molars can tip mesially more than in bilateral space maintainers
Glass Fibre Reinforced Composite Resin[20]	Non-carious/restored surface for bonding either side of a primary molar space. But these SM show high failures when placed with no rubber dam.	Single visit placement, easy to repair/replace, eliminates laboratory expenses, reduced potential for soft tissue damage compared to metal space maintainers, increased patient acceptability	Technique sensitive, good isolation and cooperation is required, risk of bonding failures, relatively new technique, long term use has not been evaluated
Simple Wire Direct bonded	Non carious/restored surface of enamel for bonding of mesh pads either side of a primary molar space. Space maintainer tube is		

	welded to mesh and wire is welded anterior.		
Distal End Shoe[32]	Premature loss of a primary molar with an unerupted tooth distal to the primary molar space. Crown fitted on first primary molar and L-shaped bar with an intra-alveolar extension soldered to crowns distal surface to guide first permanent molar.	Potential for use prior to first permanent molar eruptions	Lengthy and technically complex procedure, requires soldering equipment and excellent patient compliance.
Transpalatal Arch[14]	Maxillary arch only. Multiple loss of primary teeth, failed fixed unilateral SMs. Stainless steel wire attached to molar bands	Useful when loss of multiple adjacent teeth, preserves transverse intermolar distance	Need to await first permanent molar eruption, potential risk of soft tissue irritation to tongue, no effect on distal drift of canines, does not prevent anteroposterior movement of first permanent molars
Nance Appliances[14]	As for TPA. Stainless steel wire attached to molar bands with acrylic pad adapted to anterior aspect of palate	Maxillary arch only	Potential risk of acrylic pad embedding in palatal soft tissues, careful cleaning instructions to be given, soft tissue irritation to tongue
Lingual Arch[15]	Mandibular arch only. Stainless steel wire attached to bands and adapted to lingual aspect of mandibular arch	First permanent molars must be erupted.	Can impede eruption of mandibular incisors so contraindicated prior to their eruption

Removable Appliances	Multiple loss of primary teeth		Two visits required for fabrication, laboratory expenses, long term compliance is often poor.

FLOWCHART:

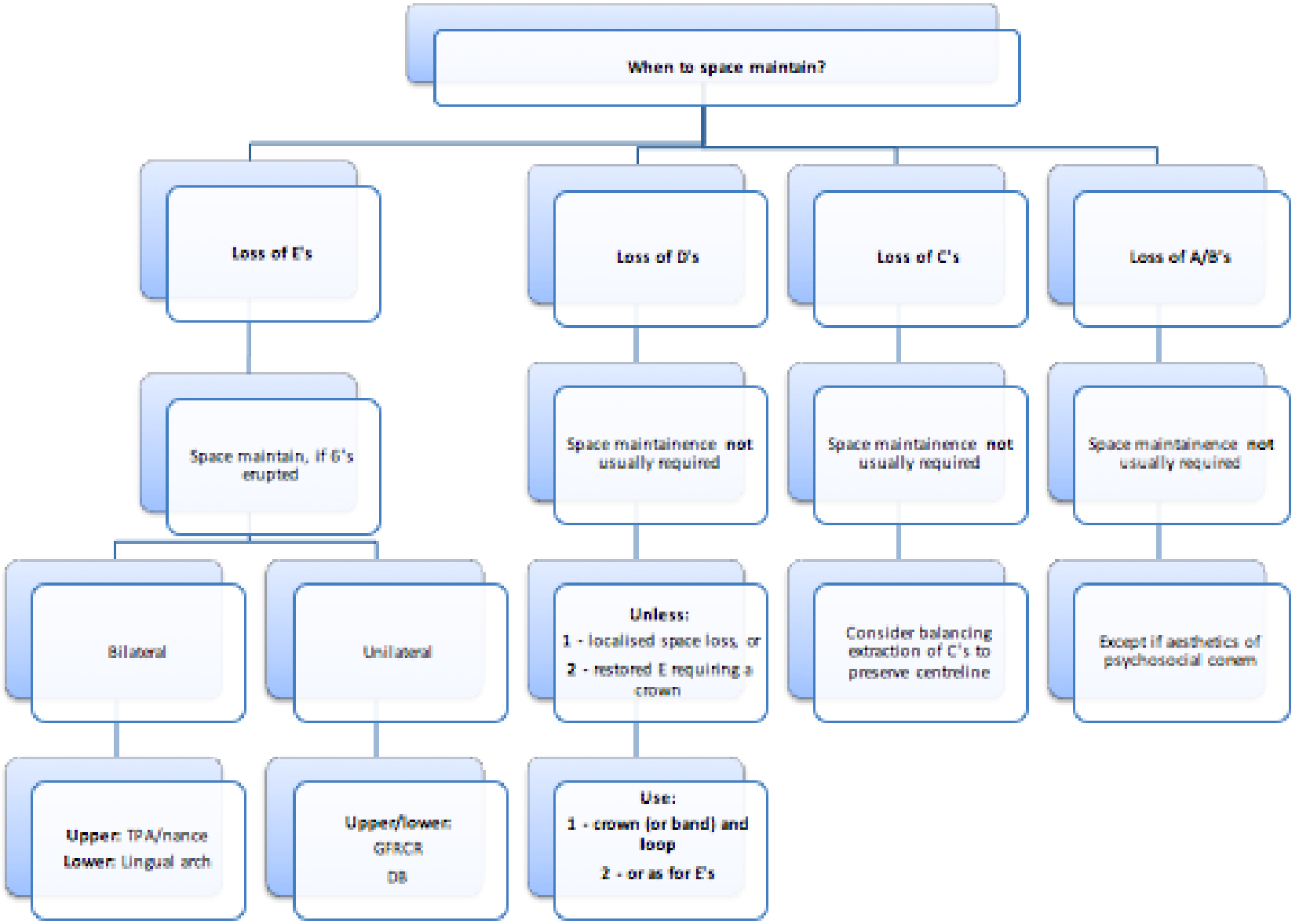

Figure 7: Flowchart to aid clinical decision making for when and how to space maintain.