

Fig. 1: Radiographic cephalograms: left side: enlarged tonsils; right side: enlarged adenoids

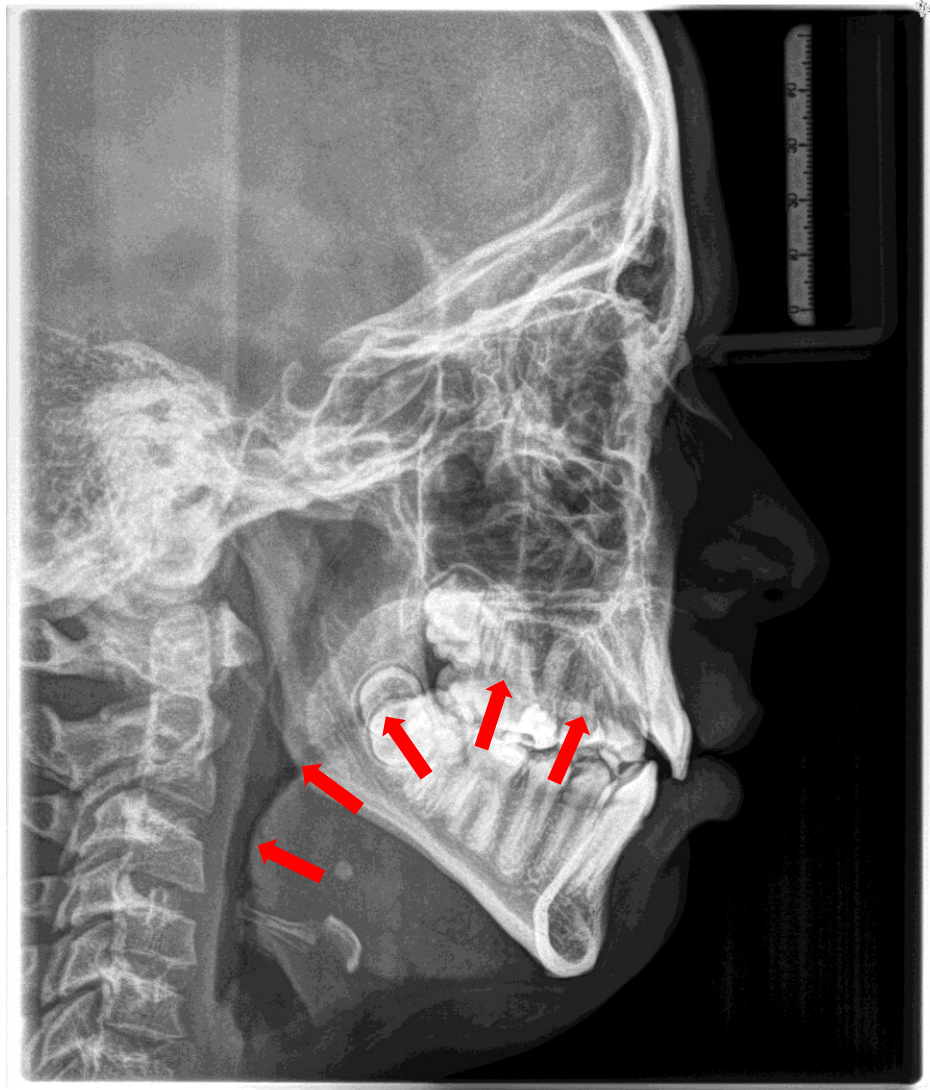
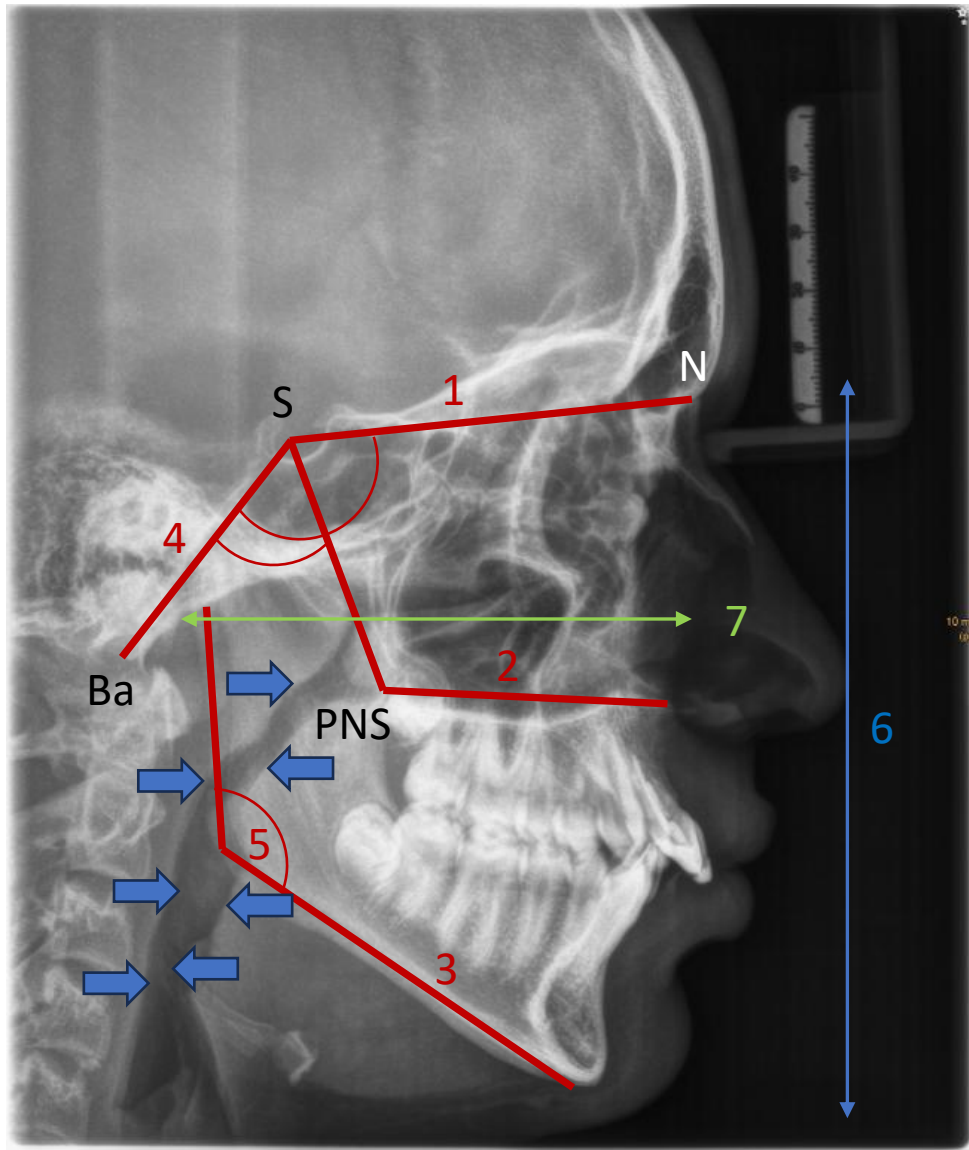


Fig. 2: Radiographic cephalogram: Low tongue position, tongue protrudes into oropharynx (red arrows indicate tongue shadow)



- (1) Shorter dimension of cranial base
- (2) Shorter and retropositioned maxilla
- (3) Shorter and retropositioned mandible
- (4) Counter-clockwise rotation of clivus, resulting in decreased angle BaSPNS & BaSN
- (5) Increased gonion angle
- (6) Increased anterior facial height
- (7) Decreased facial depth
- (8) Hyperdivergent facial planes:  
(cranial base (1) / mandibular plane (3))

Fig. 3: Radiographic cephalogram: Typical craniofacial morphology in OSA patients (blue arrows indicate PAS)

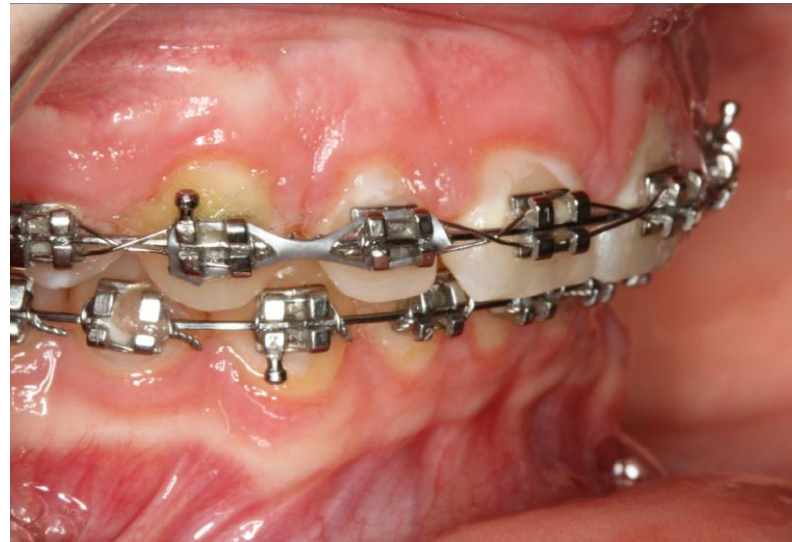


Fig. 4: Left side: Extraoral photographs of patient with OSA, convex profile, with retrognathic mandible; middle: intraoral photograph of the same patient. Initially, deep bite and increased overjet. During treatment reduced overjet and Class I occlusion. Right side: Extraoral photograph during treatment; OSA cured (Photographs shown with parental and patient's consent)



Fig. 5: Intraoral findings: (1) narrow maxilla and high palatal vault; (2) bilateral posterior crossbites, (3) low tongue position, (4) circular open bite; (5) protruded incisors; (6) deep bite and increased overjet

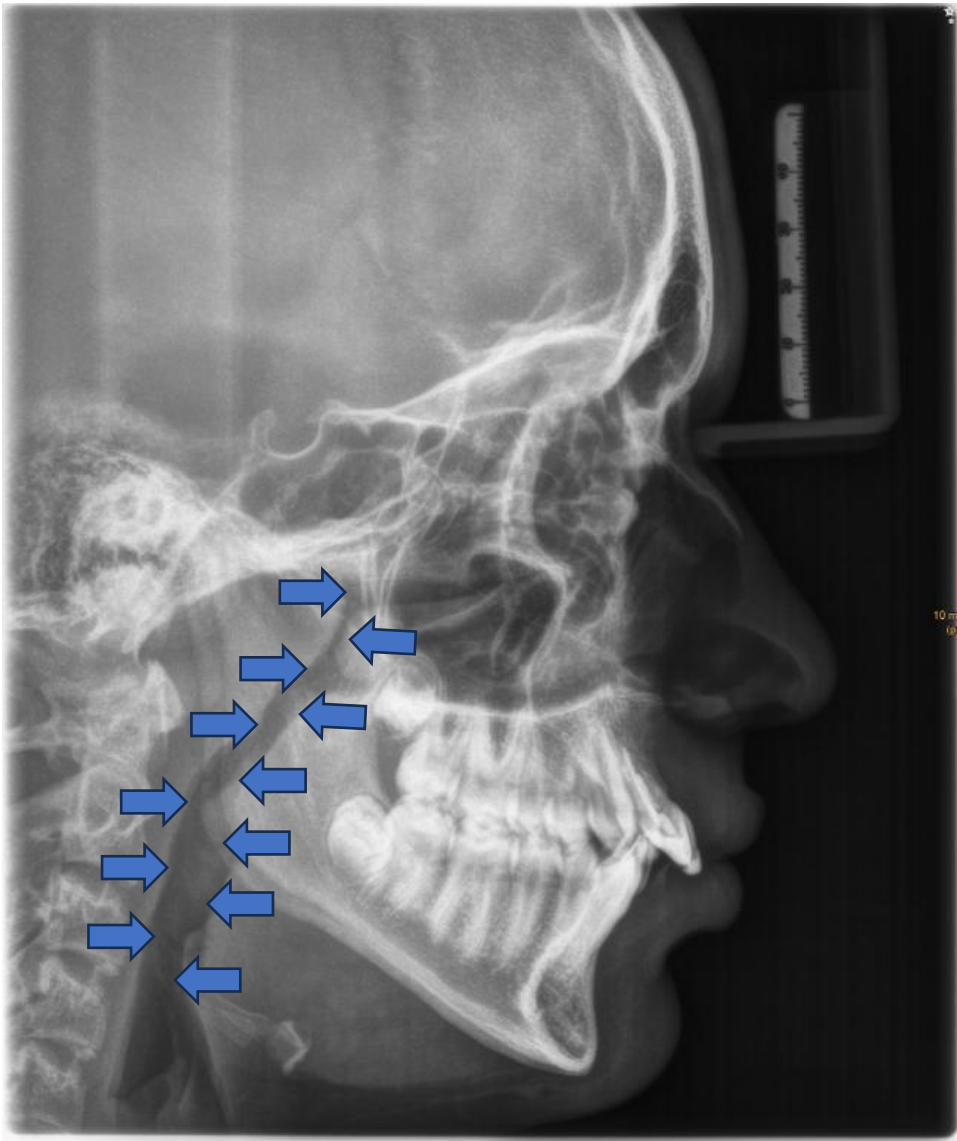


Fig. 6: Radiographic cephalogram: Posterior airway space



Fig. 7: Tübingen palatal plate for neonates with Robin sequence

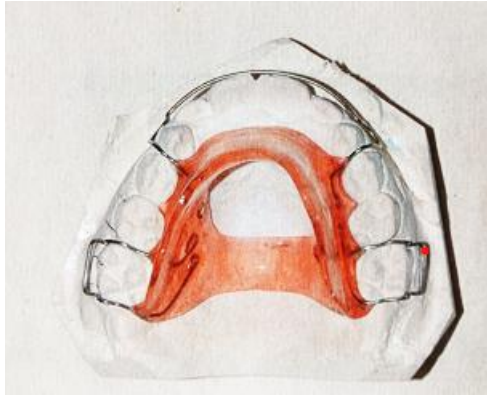


Fig. 8: Custom-made myofunctional appliances

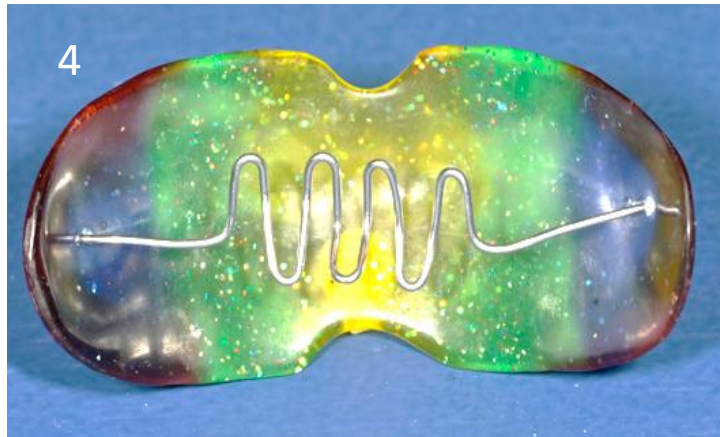
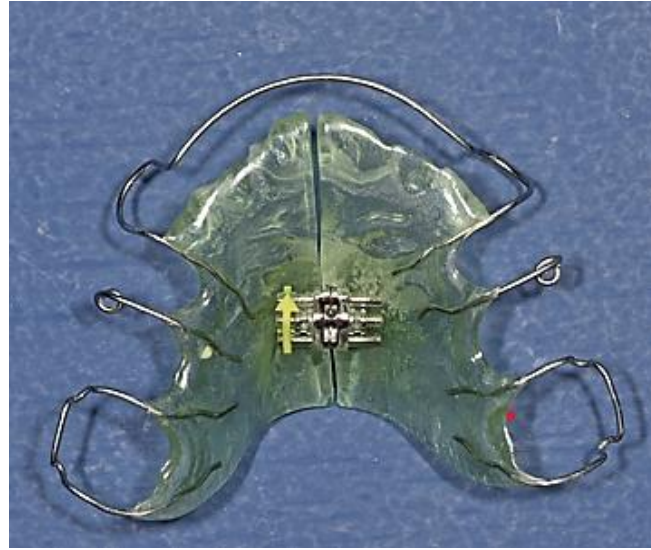


Fig. 9: Different vestibular plates: (1) prefabricated plate, (2) individual plate, (3) plate with breathing holes, (4) plate with tongue grid

**A**



**B**

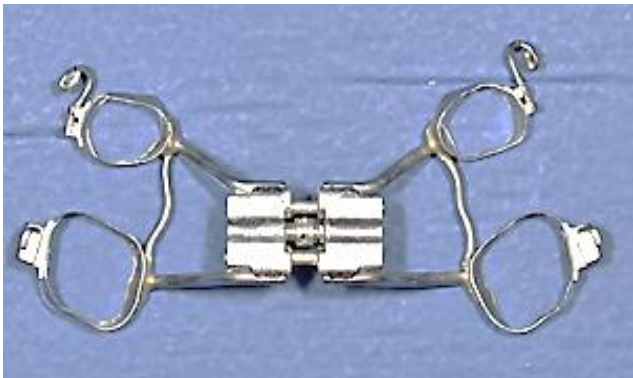


Fig. 10: A: Top Row: Removable maxillary expanders,  
B: Bottom row: Fixed maxillary expanders: Left: Hyrax-Expander (banded), middle: Quad-Helix, right: Bonded expander

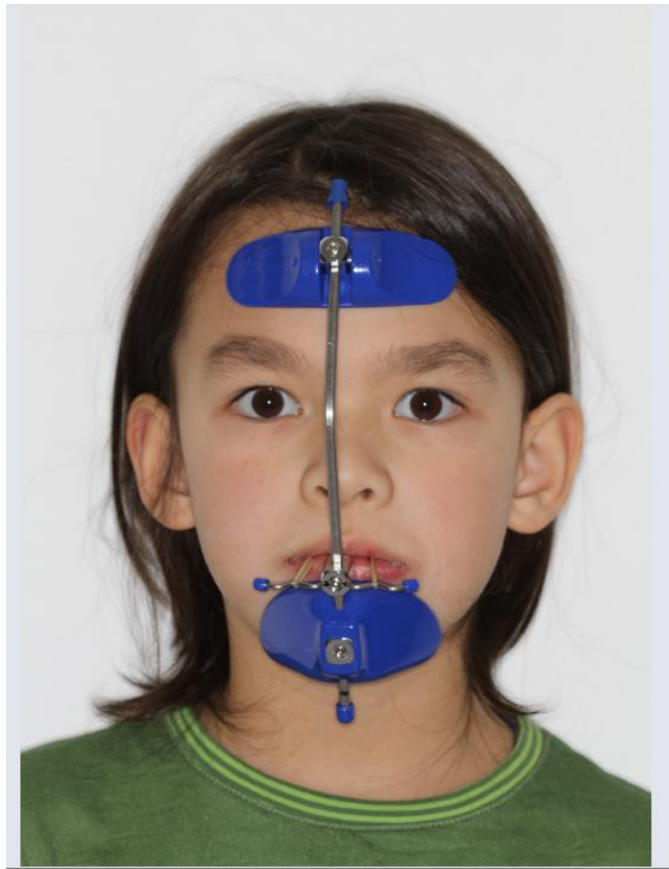


Fig: 11: Protraction treatment: Extraoral and intraoral appliance  
(Photographs shown with parental and patient's consent)

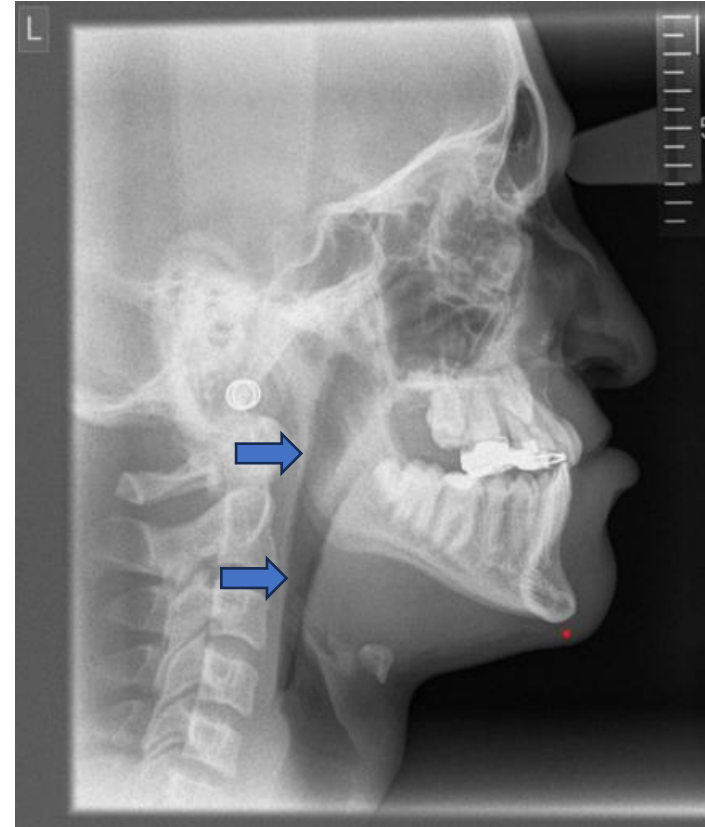
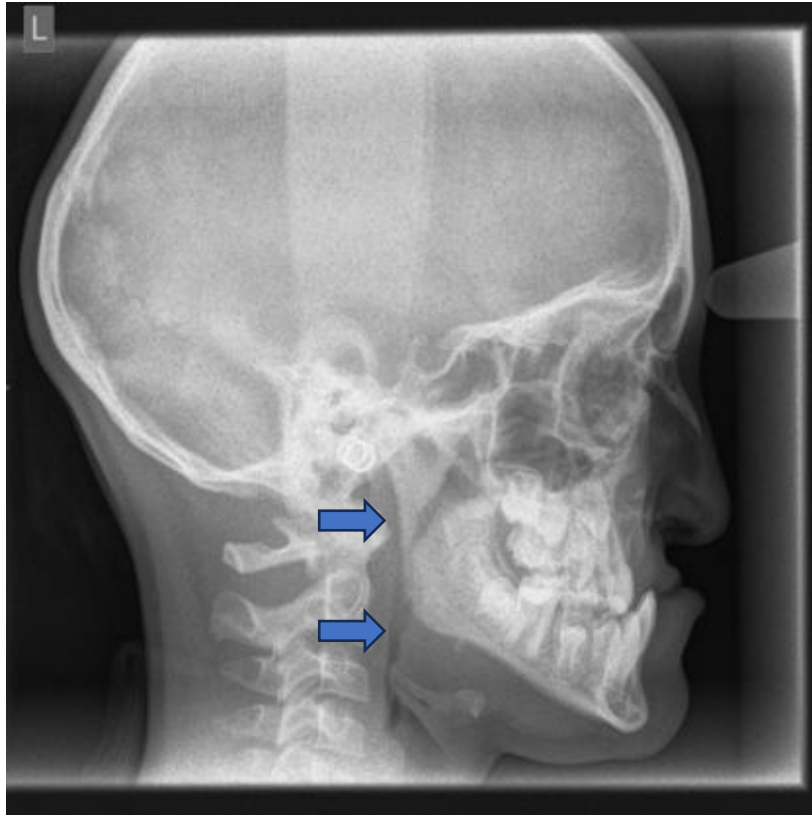


Fig. 12: Posterior airway space before (left) and after (right) protraction treatment



Fig. 13: Functional Class III appliances: (1) Class III activator, (2) Fraenkel III



Fig. 14: Bite plate for lower jaw (appliance for redirectiong vertical growth pattern)

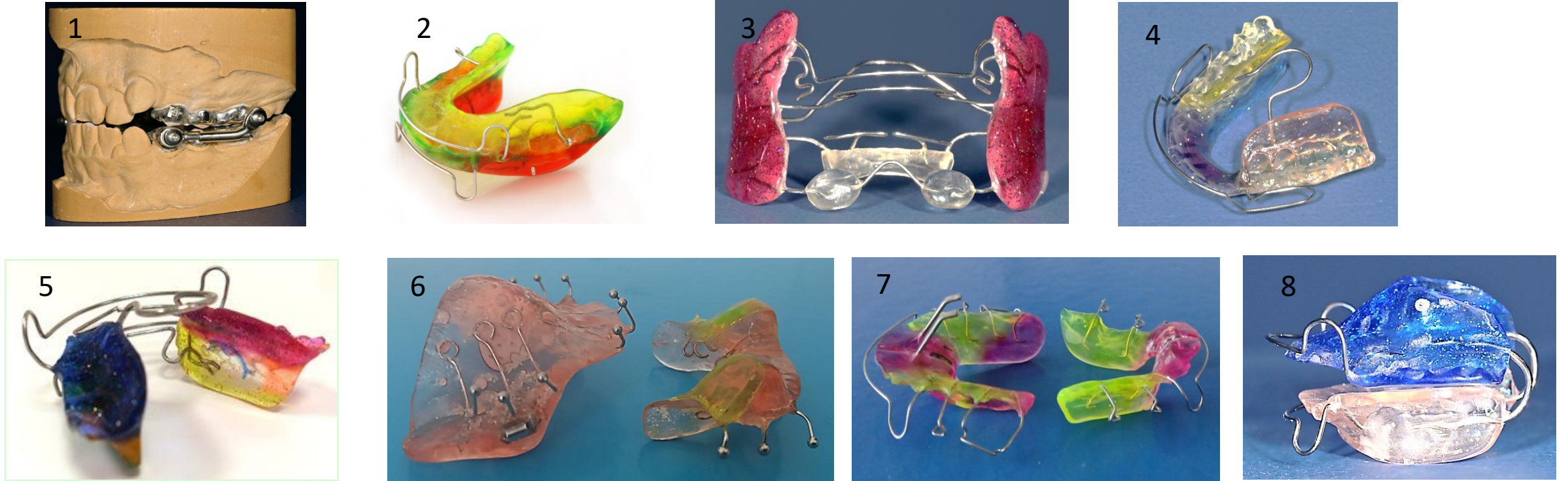


Fig. 15: Most common appliances for mandibular advancement: (1) Herbst, (2) Activator, (3) Fraenkel II, (4) Bionator, (5) elastic activator, (6) Twin Block, (7) bite-jumping appliance (VDP-Sander II appliance), (8) activator modification

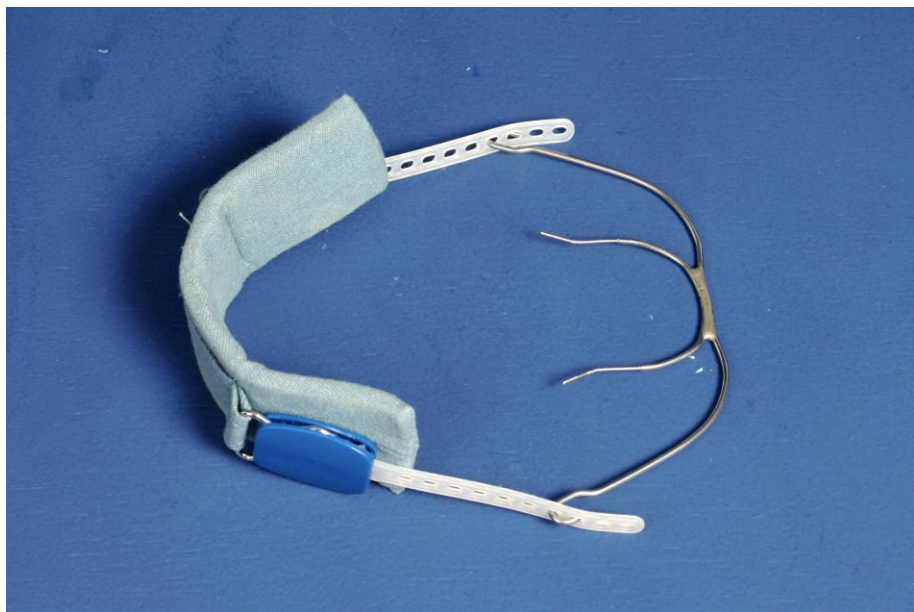


Fig. 16: Headgear