Table 17.1. Clinical Features Related to Level of Spinal Cord Injury

Level of Spinal Cord Damage	Associated Clinical Features
C1 to C4	Death secondary to respiratory paralysis
C4 to C5	Quadriplegia
C5 to C6	Arms paralyzed except for abduction and flexion
C6 to C7	Paralysis of hands and wrists but not arms
T11 to T12	Paralysis of legs above and below the knee
T12 to L1	Paralysis of the leg below the knee
S3 to S5	Loss of bladder and bowel control

C, cervical; T, thoracic; L, lumbar; S, sacral.

Table 17.2. Epidermolysis Bullosa Phenotypes and Treatment

Condition	Clinical Phenotype	Oral Manifestations	Treatment
Simplex	Severity varies but in most cases blistering is confined to hands and feet. There are severe simplex subtypes (i.e., dowling mera).	Slight increase in oral fragility. Teeth are normal and caries risk normal.	Typically, treatment is the same as for unaffected people. Appropriate oral disease prevention, sealants, bonding.
Junctional	Severity of blistering varies but can have extensive lesions on face and in perioral region. Can have significant scarring. Digits typically not fused.	Most will have increased fragility of intraoral soft tissues. All have enamel hypoplasia. Can have some microstomia due to perioral lesions.	Aggressive prevention and optimal use of fluorides/ sealants can help control caries risk. Injections should be deep and slow to reduce risk of blister formation. No soft tissue shear force.
Dominant dystrophic	Tissue separation occurs in the dermis. Can have severe skin involvement with moderate–severe increase in tissue fragility. Lesions often heal with scarring. Oral opening relatively normal.	Mucosal fragility is increased and can develop lesions with minor soft-tissue manipulation. Teeth are typically normal. Caries risk is slightly increased.	Be cautious with soft tissue manipulation as can cause blisters and ulcerations. Optimize oral disease prevention. Typically treated in outpatient setting similar to unaffected patients.
Recessive dystrophic	Tissue separation in the dermis with typical severe skin involvement with marked tissue fragility. Can have severe scarring with digit fusion. Can have esophageal strictures, alopecia, and other manifestations.	Microstomia, vestibular obliteration, ankyloglossia, and loss of lingual papillae are all typical. Severe dental caries is common. Often develop periodontal disease if teeth retained. Mucosa is very fragile and oral ulcers are almost always present.	Aggressive prevention using optimal fluoride exposure (e.g., water, varnish, dentifrice, rinse). Restorative treatment: *primary—mixed dentition*: stainless steel crowns in posterior, resin, or resin-faced crowns in anterior; *permanent dentition*: stainless steel/cast/ceramic crowns in posterior teeth and resin or ceramic esthetic crowns in anterior.
Kindler syndrome	Skin blistering at birth, photosensitivity, and atrophy of skin, skin fragility.	Fragile oral mucosa, gingivitis and predilection to developing periodontitis, normal dentition.	Monitor periodontal status, periodontal maintenance therapy as needed, and rigorous caries prevention program.

Table 17.3. Amelogenesis Imperfecta and Dentinogenesis Imperfecta Phenotypes and Treatment

Condition	Clinical Phenotype	Radiographic Phenotype	Treatment
Amelogenesis imperfecta: hypoplastic	Color is normal to yellow with stains in pits. Enamel—thin, pitted, or grooved. Sensitivity usually not severe.	Enamel—thin, pitted, or not radiographically visible. Contrast to dentin often is normal.	Sealants, bonding, consider crowns if severe enamel hypoplasia and dental sensitivity.
Amelogenesis imperfecta: hypomineralized	Color varies: orange to yellow-brown. Enamel fracturing is common. Sensitivity—often severe. Calculus formation—often extensive.	Enamel—contrast to dentin may be minimal. Crown morphology in unerupted teeth appears normal. Often have cervical remnants or wings of enamel retained at cervical area.	*Primary—mixed dentition*: stainless steel crowns in posterior, resin, or resin-faced crowns in anterior. *Permanent dentition*: stainless steel/cast/ceramic crowns in posterior teeth and resin or ceramic esthetic crowns in anterior.
Dentinogenesis imperfecta	Color is blue-gray to yellow-brown. Enamel typically normal but can be hypoplasia and it frequently fractures leading to severe attrition. Crowns can be normal to small.	Dentin has reduced radiographic contrast. Can have marked cervical constriction, short pointed roots, pulp chamber obliteration.	If no enamel loss and wear then treatment is focused on esthetics. If enamel fracturing then: *primary—mixed dentition*: stainless steel crowns in posterior, resin, or resin-faced crowns in anterior; *permanent dentition*: stainless steel/cast/ceramic crowns in posterior teeth and resin or ceramic esthetic crowns in anterior.

Table 17.4. Ectodermal Dysplasia (ED) Phenotypes and Treatments

ED Type	Clinical Phenotype	Radiographic Phenotype	Treatment
Hypohidrotic	Sparse fine hair, missing teeth, lack of normal sweating, can have hyperthermia, and unexplained fevers	Multiple missing teeth, conical-shaped incisors, taurodont molars	*Infant*: age 1 year dental visit—diagnosis and anticipatory guidance. *Childhood*: bonding of conical-shaped teeth, prosthesis placement. *Adolescent-adult*: consider definite treatment of hypodontia with prostheses/implants.
Ectrodactyly-ectodermal dysplasia-clefting syndrome	Sparse hair, missing/malformed teeth, split hand/foot, cleft lip/palate	Hypodontia, malformed teeth, microdontia	*Infant*: age 1 year dental visit—diagnosis and anticipatory guidance, cleft management initiated, and continued through adolescence as needed. *Childhood*: bonding, crowns, extraction microdont/malformed teeth as needed, prosthesis placement. *Adolescent-adult*: consider definite treatment of hypodontia with prostheses/implants.
Focal dermal hypoplasia	Abnormal eye development, facial asymmetry, sparse hair, enamel hypoplasia, missing/malformed teeth, can include cleft lip/palate	Hypodontia, enamel hypoplasia, dental malformations such as talon cusps, malposition of the teeth	*Infant*: age 1 year dental visit—diagnosis and anticipatory guidance. *Childhood*: bonding/stainless steel crowns as needed on malformed teeth, prosthesis placement. *Adolescent-adult*: consider definite treatment of hypodontia with prostheses/implants.

Table 17.5. Removable Prosthetic Appliances for Managing Oral–Facial Clefts

Appliance	Indication	Description
Palatal and palatopharyngeal obturator	Residual oronasal communication or fistula or palatopharyngeal insufficiency	Palatal obturator covers the fistula; palatopharyngeal obturator provides velopharyngeal closure; both appliances help reduce hypernasality and improve speech
Palatal lift appliance	Velopharyngeal incompetence where soft palate has appropriate length but inadequate innervation	Designed to elevate the soft palate and provide mechanical impedance of air from entering the nasal cavity
Tooth born fixed dental prostheses	Replace missing and/or malformed teeth	Constructed to replace missing teeth and can be conventional or resin bonded
Endosseous implant-based prostheses	Replace single or multiple missing or malformed teeth	May be single or multiple implants used depending on the number of teeth involved and relationship to cleft

Table 17.6. Steps for a Wheelchair to Dental Chair Transfer

1. Determine how much assistance the patient will require.
2. Move (or remove) any parts of the dental chair that might interfere with the transfer. Examples include the arm rest and foot controls.
3. Place the dental chair and wheelchair at approximately the same height. Move the wheelchair next to the dental chair and lock it in place.
4. Remove the wheelchair's arm and foot rests.
5. Perform the two-person transfer as illustrated in Fig. 14.6.
6. Position the patient in the dental chair and allow the patient to find a comfortable position (assist the patient as much as needed during this process).

Table 17.7. Modifications in Patients with Spinal Cord Injuries

Complication	Modification
Postural hypotension	Dental treatment in the supine position.
Paraplegia	See Table 17.6 and Fig. 14.6 for wheelchair transfers.
Quadriplegia	Assistance with home care required. Use general anesthesia with caution due to the risk of respiratory infections.
Possible use of long-term steroid therapy	Consult with physician regarding dosage modification prior to treatment.