

-SQA-SCOTTISH QUALIFICATIONS AUTHORITY

**Hanover House
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NATIONAL CERTIFICATE MODULE DESCRIPTOR

-Module Number- 0069154 **-Session-1986-87**
-Superclass- PF

-Title- **COMPLETE DENTURE CONSTRUCTION (x 2)**

-DESCRIPTION-

Type and Purpose A Specialist Module (2) which enables the Dental Technology student to acquire a knowledge of the principles and concepts of complete denture construction.

Preferred Entry Level 09147 Denture Flasking, Packing and Processing.

Learning Outcomes The student should:

1. know the principles underlying the construction of complete dentures;
2. know the principles of complete denture retention;
3. set up, and wax up a complete denture to a given prescription;
4. demonstrate safe working practice.

Content Context Corresponding to Learning Outcomes 1-4:

1. Principles underlying the construction of complete dentures:
 - (a) Restoration of appearance: factors affecting appearance explained as:
 - (i) selection of tooth mould;
 - (ii) selection of tooth size;
 - (iii) selection of tooth shade;
 - (iv) position of teeth;
 - (v) waxing up of teeth;

- (vi) attrition of teeth.
- (b) Restoration of phonetics: factors affecting phonetics explained as:
 - (i) position of teeth;
 - (ii) vertical dimension;
 - (iii) occlusal plane;
 - (iv) post dam area;
 - (v) width of dental arch;
 - (vi) relationship of upper anteriors to lower anteriors.
- (c) Restoration of mastication: factors affecting mastication explained as:
 - (i) occlusion;
 - (ii) articulation;
 - (iii) tooth size (occlusal surface);
 - (iv) cuspal height and angle.
- (d) Restoration of vertical dimension explained as: vertical space between the jaws when the facial muscles are relaxed and the heads of the condyles are in their most retruded position in the glenoid fossa yet unstrained. If this is not maintained the results will be:
 - (i) loss of facial appearance;
 - (ii) pain in the temporal-mandibular joint;
 - (iii) inefficiency of the dentures;
 - (iv) cheek biting;
 - (v) soreness at corner of the mouth (angular cheilitis).
- (e) Restoration of muscle tone: factors affecting muscle tone explained as:
 - (i) loss of facial appearance;
 - (ii) pain in the muscle of mastication;
 - (iii) cheek biting;
 - (iv) soreness at corner of the mouth;
 - (v) inefficiency of dentures.
- (f) Laws of articulation explained as:
 - (i) condylar angle - angle at which the heads of the condyles move from the glenoid fossa to the articular tubercle;
 - (ii) incisal angle - angle formed by the overjet-overbite relationship of the upper and lower anterior teeth;

- (iii) cuspal angle - the angulation between the cusp-slope and a line drawn across the base of the cusp;
 - (iv) compensating curves - a saucer like curve of artificial teeth similar to the curves of spee and monson in the natural dentition. These are incorporated into denture construction to enable the teeth to keep in maximum contact and interdigitation during mastication;
 - (v) occlusal plane - imaginary plane which runs parallel to the naso-auricular line (ala of the nose to the auditory meatus of the ear) and whose anterior origin is the mid lip line.
2. Factors affecting retention of complete dentures explained as:
- (a) Physical:
 - (i) adhesion - attraction of unlike molecules;
 - (ii) cohesion - attraction of like molecules;
 - (iii) surface tension - meniscus forms which resists penetration of air under the denture;
 - (iv) atmospheric pressure - of 14.7 lb per sq inch at sea level;
 - (v) gravity - weight of denture should be kept to a minimum.
 - (b) Anatomical: well developed firm alveolar ridges with an even thickness of tissue and a good depth of sulcus from the crest of the ridge enhance retention. Poorly defined ridges with soft flabby tissue lead to dentures being unstable.
 - (c) Mechanical:
 - (i) fit - good impression;
 - (ii) shape - functional impression, flanges in harmony with facial muscles and tongue;
 - (iii) occlusion and articulation.
 - (d) Physiological: muscle action at reflex level aiding retention of dentures. However, young patients are more able to adjust to new dentures in this manner than the older patient.

- (e) Aids:
 - (i) magnets;
 - (ii) springs;
 - (iii) subperiosteal implants;
 - (iv) suction discs;
 - (v.) weight.
- 3. Articulate models using record blocks:
 - (a) set upper anteriors to prescription;
 - (b) set upper posts with compensating curve;
 - (c) open vertical dimension to allow for wax shrinkage;
 - (d) set lower posts to interdigitate with upper posts;
 - (e) set lower anteriors to allow for overjet-overbite;
 - (f) spot grind teeth to balanced articulation;
 - (g) wax up.
- 4. Safe working practice with: bunsen, instruments, wax, handpiece

Suggested
Learning
and Teaching
Approaches

Relating to Learning Outcomes 1-4:

This is a practical-based module. The student should spend the majority of time in practising his/her skills to achieve a satisfactory standard of work.

- 1-2 A collection of demonstration modules, visual aids, films and existing set-ups could be shown to the student during short lectures and discussions, backed up where possible by a visit to a clinic.
- 3. The whole procedure for complete denture construction could be demonstrated by the use of a series of pre-prepared set-ups at differing stages in their construction, so that the time factor is eliminated and the student can gain an overview of the task he/she will be required to carry out. Each student should subsequently, under constant guidance, make several different set-ups. Formative assessment by oral questioning and observation of the student's practical work should accompany each practical activity so that remedial action can be taken. There should also be discussion on the restraint imposed by industry on the time allocated to the task.
- 4. The safety procedures should be demonstrated and subsequently discussed frequently throughout the module.

Assessment
Procedures

Relating to the Learning Outcomes 1-4:

1. Short oral or written test or tests (objective or short answer) held when appropriate during the module, but allowing time for remediation and retesting if necessary.

2. Short oral or written test or tests (objective or short answer) held when appropriate during the module, but allowing time for remediation and retesting if necessary.

3. Observation of performance during practical work using a checklist to indicate that satisfactory complete dentures have been made on at least three occasions, e.g:

3.1 mounting casts to articulator - plasterwork;

3.2 anterior teeth - ridge relationship, tooth inclinations, overbite, overjet;

3.3 posterior teeth - ridge relationship, compensating curve;

3.4 tooth occlusion - lingually, buccally incentric;

3.5 tooth occlusion - working and balancing bites in lateral movement;

3.6 tooth occlusion - in protrusive movement;

3.7 peripheral outline and shape of dentures in relation to anatomical features on cast;

3.8 wax up and contouring;

3.9 aesthetics and general appearance of dentures.

4. Observation of performance during practical activities using a checklist to indicate satisfactory performance, eg:

safe working practice is observed for:

electrical equipment; wax; bunsen burner; eye protection; face protection

Performance Criteria

Learning Outcomes 1 and 2:

The performance in the respective tests should indicate that the student has mastered the content required for each Learning Outcome. The exact score required will depend on the difficulty and extent of the tests and cannot be fully judged in advance; it is however unlikely to be less than 70%.

Learning Outcome 3:

As soon as formative assessment shows that the student has satisfied the tutor of the quality of the finished product on three occasions he/she should be credited with the Learning Outcome. The complete dentures should be retained for assessment purposes.

Learning Outcome 4:

The tutor must be satisfied that the student observes the correct procedure for each item on the checklist before he/she is credited with the Learning Outcome.

For Learning Outcomes 1, 2, 3, and 4 the standard to be achieved will be a matter for the professional judgement of the tutor aided by the Council's assessor.

Award of the module depends on satisfactory achievement of all the Learning Outcomes.