Unit Specification

UBT503 – Dermatological Science for Advanced Aesthetic Therapies

L/651/6103

Level: 4
Guided Learning Hours (GLH): 50

Overview

This unit is about advanced skin analysis techniques for advanced aesthetic therapies. It will enable learners to enhance their understanding of the science behind the physiology of skin ageing, skin inflammatory and remodelling responses, developing their comprehension of facial analysis procedures and advance their understanding of the ageing process and its effects on the skin. Alongside the basic anatomy of the eye area, lips and nose and the associated risks of working on these delicate areas. A more thorough understanding will enable learners to formulate a detailed treatment plan to address the client's specific and individual needs, ensuring health, safety and unique requirements are met.

Learning outcomes

On completion of this unit, learners will:

LO1 Know the physiology of skin ageing, inflammatory and remodelling response and the basic anatomy of the eye area, lips and nose

LO2 Know how to conduct an advanced skin assessment

LO3 Know how to prepare for and provide advanced skin assessment

Unit content

LO1 Know the physiology of skin ageing, inflammatory and remodelling response and the basic anatomy of the eye area, lips and nose

Theories of ageing
Taught content
• Evolutionary theories, for example programmed theories, somatic theory, DNA error theory, cellular theory, cellular garbage theory, accumulation of errors theory, immunological theory, neuro-ageing theory, nutritional theory, gene theories, wear and tear theory, cross-linking theory, free radical theory

Ageing processes within the structure of the skin
Taught content
• Keratinocyte life cycle • Desquamation of corneocytes • Formation of proteins • Protein lifecycle • Extracellular fluid • Melanogenesis • Angiogenesis • Immune and lymphatic system • Glycosaminoglycans (GAGS) • Enzymes – matrix metalloproteinases (MMPs), tissue inhibitors of metalloproteinases (TIMPs), proteolytic • Glycation, advanced glycation end products (AGEs) and the role of macrophages • Effects on trans epidermal water loss (TEWL) and natural moisturising factor (NMF) • Vitamin C • Vitamin A • Micro circulation • Oxygenation • Skin barrier defence

Differences between intrinsic and extrinsic effects on the skin

Taught content

- Intrinsic to include:
  - Senescence
  - Hereditary factors
  - Chronological age
  - Free radicals
  - Matrix metalloproteinase (MMP) activation
  - Hormones
- Extrinsic to include:
  - Environment
  - Temperature changes
  - UV light
  - Pollution
  - Diet including gut health
  - Smoking or vaping
  - Medication
  - Alcohol
  - Lifestyle
  - Occupation
  - Stress
  - Illness
  - Current skincare regime

Signs and symptoms of an ageing skin

Taught content

- Changes to sebaceous gland activity
- Excess keratinisation
- Glycation
- Hair growth
- Impaired immune system – puffy eyes, swelling of ankles, feet, fingers, cellulite, weight fluctuations
- Lines and wrinkles
- Loss of elasticity
- Loss of hyaluronic acid
- Loss of skin adhesion, elastin, superficial and deep fascia
- Loss of structural integrity
- Muscle atrophy, loss of muscle tone and dropped contours
- Pigmentation change
- Reduced epidermal cell turnover
- Reduced barrier function
- Skin density
- Vascular damage

Effects of UV light on the skin ageing process

Taught content

- Light spectrum, UVA, UVB, UVC, melanocytes, melanin production and function, abnormal elastin production, accelerated ageing, Langerhans cell migration, actinic keratosis, free radical generation, affected DNA repair, altered cell death, bruising, collagen and elastin breakdown, increase in Matrix metalloproteinases (MMPs), effects on vitamin A & C, hyper/hypo-pigmentation, lowered immunity, photosensitivity, seborrheic keratosis, solar keratosis, mole changes, tumours/cancers – basal cell carcinoma, squamous cell carcinoma, malignant melanoma
- Acute and chronic sun damage
- Recommend precautions to minimise damage caused by UV light – physical barriers, for example hats, clothing avoid or limit exposure, nutritional protection, for example vitamin C, antioxidants, sunscreens, sun protection factor (SPF), avoid UV sunbeds, medications and cosmetic procedures which may cause photosensitivity

Effects of nutrition, illness and medication on skin health

Taught content

- The effects of water on skin health
- The sources and effects of macronutrients and micronutrients
- The sources and effects of antioxidants
- The effects of anti-nutrients on skin health
    - The anti-nutrient effects of tea, coffee, alcohol, carbonated soft drinks, tranquillisers, antibiotics, smoking/vaping, medication, HRT and the contraceptive pill
    - The effect of anti-nutrients on vitamin and mineral absorption
    - The nutritional supplements which support skin health, for example omega three and six fatty acids, antioxidants, vitamin C
- How lifestyle changes can impact on client's treatment outcomes
- How certain diets may affect skin health – for example, low fat diet, fat free food, high glycaemic index foods, vegetarian, vegan
- How certain illnesses and medication may affect skin health – for example, diabetes, anaemia, endometriosis, diuretic medication, the effect of oestrogen levels post menopause

Benefits and limitations of treatments and products considered to enhance appearance as the skin ages
Taught content
• Skin effects – hydration, moisturising effects, exfoliation, cell regeneration, collagen promotion, nutrients, cell metabolism, fine lines and wrinkles, desquamation, acid mantle • Corrective or active skincare products – such as cleansers, serums, antioxidants, phytosterols, phytohormones, moisturisers, sunscreens, skin lighteners, cosmeceuticals • Pentapeptides – increase collagen and elastin production in the skin • Collagen and elastin – reduce the appearance of fine lines and wrinkles and improve elasticity, promote firmer skin • Fatty acids – combination of fatty acids and synthetic peptides enable deeper penetration for collagen stimulation • Retinol (Vitamin A compound) – antioxidant, breaks down free radicals • Hydroxy acids – exfoliating effect, stimulates growth of smooth, evenly pigmented, cellular renewal • Enzymes – nutrients regulate energy in cells, reduces the appearance of fine lines • Copper peptides – enhance wound healing, stimulate collagen production • Peels – Alpha Hydroxy Acids (AHAs), Beta Hydroxy Acids (BHAs), Poly Hydroxy Acids (PHAs), Carboxylic and Dicarboxylic acids, Acetic Acids, Trichloroacetic acid (TCA), Phenol derivatives, Modified Jessner Solutions • Treatments – for example microcurrent, microdermabrasion, Intense Pulsed Light (IPL), laser treatments, Light Emitting Diodes (LED), radio frequency therapy, high intensity focused ultrasound (HIFU), plasma pen treatments, photodynamic therapy (PDT), skin needling, skin peeling, dermaplaning, mesotherapy, facial massage

Pathological conditions of the skin which may occur as a result of ageing
Taught content
• Thin skin, elastosis, solar elastosis, keratoacanthomas, solar keratosis, dehydrated skin, dry skin, loss of subcutaneous tissue, poor thermoregulation, haematomas, cherry angiomas, hyperplasia, decreased cellular renewal, melanomas, allergies, increased incidence of skin disorders such as psoriasis, eczema, pressure ulcers, increased incidence of skin infections, lentigines and lentigo, telangiectasia, poikiloderma, diffused redness, inflammatory pigmentation, skin tumours, miliaria rubra, chloasma, melasma, ephilides, vitiligo, vascular naevi, haemangiomas, seborrheic or senile warts, verrucae filiformis or skin tags, keloids, malignant tumours (squamous cell carcinomas or prickle-cell cancers, basal cell carcinomas or rodent ulcers, melanoma), urticaria and acne

How ageing affects the repair mechanisms of the skin

Taught content

- Loss of cell function, DNA damage, reduction in healing abilities, increase in healing time, poor or slower results from treatments, increased likelihood of adverse effects from treatment, increased need for pre and post treatment products

Skin's inflammatory response and remodelling process

Taught content

- Purpose – inflammatory response is a protective mechanism triggered by injury, treatments examples, microneedling, chemical peels, or infections.
- Phases:
  - Hemostasis, immediate clotting response to prevent excessive bleeding and platelet activation
  - Inflammation (0-72 hrs), immune cells (macrophages, neutrophils) remove debris and release growth factors
  - Proliferation (3-14 days), fibroblasts stimulate collagen production and new skin cell formation
  - Remodelling/maturation (weeks to months), stronger collagen (Type I) replaces weaker initial collagen (Type III), improving skin integrity and elasticity, extracellular matrix (ECM) organisation
- Key Inflammatory Mediators:
  - Histamine, increases blood flow and permeability, causing redness and swelling
  - Cytokines and growth factors, stimulate repair processes, examples TGF- β , FGF
- Skin remodelling and healing post-treatment:
  - Collagen and ECM formation, fibroblasts produce new collagen, elastin, and hyaluronic acid
  - Myofibroblast action, contracts wound edges and aids scar formation
  - Angiogenesis, new blood vessels develop, enhancing oxygen and nutrient supply
  - Restoration of skin barrier, epidermal renewal for improved texture and resilience
- Factors influencing skin recovery:
  - Age and genetics, slower healing in mature skin due to reduced fibroblast activity
  - Lifestyle and nutrition, hydration, vitamins (A, C, E), and reduced smoking/alcohol aid recovery
  - External Influences, UV exposure, pollution, and skincare products impact skin healing and remodelling

Anatomy of the eye area, lips and nose
Taught content
• Eye area (periorbital region) anatomical structures: - Skin, thinnest in the body (0.5mm), lacks oil glands, making it prone to dehydration and sensitivity - Orbicularis oculi muscle, circular muscle responsible for blinking and squinting - Fat pads, orbital fat cushions the eye but can herniate, causing eye bags - Blood supply, Supraorbital and Supratrochlear arteries (above the eye), Infraorbital artery (below the eye) • Lips (perioral region) anatomical structures: - Skin, vermilion border has no sweat or sebaceous glands, making lips prone to dryness, highly vascular, leading to quick healing but easy bruising, lacks a keratinized Barrier, more permeable to products, treatments, and infections - Muscles, orbicularis oris, circular muscle that controls lip movement, depressor anguli oris, pulls corners of the mouth downward - Blood supply, superior and inferior labial arteries from the facial artery - Nerves, innervated by the infraorbital and mental nerves, making lips sensitive to treatments • Nose (nasal region) anatomical structures: - Skin, nasal dorsum (bridge of the nose), thin skin (around 1-2 mm thick), less subcutaneous fat, making the underlying bone and cartilage more defined, nasal tip, thicker skin (can be 4-6 mm or more), contains more sebaceous glands, making it oilier and more resistant to scarring, alar region (sides of the nostrils), moderate thickness (2-3 mm), more fibrofatty tissue, columella (tissue between the nostrils), thin to moderate thickness (2 mm), delicate area - Cartilage and bone, nasal bridge mostly bone, nasal tip mostly cartilage - Blood supply, dorsal nasal, lateral nasal, and angular arteries - Nerves, infraorbital and naso ciliary nerves, making the area pain sensitive • Risks, the eye area, lips and nose contain delicate structures, major blood vessels, and key nerves, without proper knowledge, practitioners risk complications such as vascular occlusion, nerve damage, burns, scarring, or blindness

LO2 Know how to conduct an advanced skin assessment

The key characteristics of skin types

Taught content

- Skin type – predisposed, inherited genetic skin type
    - Balanced – even balance of oil and water secretions, skin is soft, supple and elastic, no imperfections, even colour, small pores, efficient skin renewal, usually found on very young skins
    - Dry – matt and uneven texture, minimal oil, signs of premature ageing, pigmentation and diffused redness, visible capillaries, easily sensitised, little resistance to climate changes, flaky and dull
    - Combination – generally the centre zone is oily and the cheeks either balanced or dry
    - Oily – excessive sebaceous secretions, scarring may be evident, dilated pores, shiny appearance, thick and coarse texture, comedones, pustules and papules, sallow colour, may have diffused redness

Skin classification tools

Taught content

- Fitzpatrick scale
- Glogau scale
- Lancer scale
- Phenotype
- Genotype
- Rubin

The signs and causes of skin conditions

Taught content

- Dehydration
- Acne (vulgaris and rosacea)
- Lax elasticity
- Hypopigmentation
- Fragile
- Sensitised
- Sensitive
- Photo-aged
- Photo-sensitive
- Lack lustre
- Excess keratinisation
- Loss of structural integrity and skin density
- Glycation
- Hyperpigmentation
- Vascular conditions
- Oxygenation loss
- Impaired lymphatic/circulatory system
- Impaired enzyme activity
- Impaired acid mantle

The importance of linking skin structure and function to skin condition
Taught content
• The lifecycle of the keratinocyte • The lifecycle of fibroblasts and how they are responsible for collagen and elastin formation, and fibroblastic stimulation • The lifecycle of the melanocyte – melanogenesis, angiogenesis • The skin barrier defence system

The benefits and limitations of different equipment used for skin assessment
Taught content
• Equipment - Magnifying lamps - Magnifying glasses - Black light skin scanners, for example, Wood's lamp - Skin scanning cameras - Electronic devices which measure levels of lipids, hydration, melanin, density, erythema and pH

Contra-actions that may occur and how to respond
Taught content
• Where the treatment may need to be terminated due to extreme adverse skin reaction for example, excessive erythema, skin irritation, itching, allergic reaction, anaphylaxis • The immediate actions to perform, removal of products, application of cool compress, referral procedures • How to recognise possible contra-actions and the advice to give to clients

Signs of, and procedures for dealing with anaphylactic shock

Taught content

- Understand the importance of formal, anaphylaxis management training
- The physiology of an anaphylactic shock: a severe, immediate, potentially fatal systemic allergic reaction to contact with a foreign substance or antigen
- The symptoms of an anaphylactic shock: generalised flushing of the skin, nettle rash (hives) anywhere on the body, swelling of throat and mouth, difficulty in swallowing or speaking, alterations in heart rate, severe asthma, abdominal pain, nausea and vomiting, sudden feeling of weakness (drop in blood pressure), collapse and unconsciousness
- The EpiPen (epinephrine auto-injector) is a medical device for injecting a measured dose or doses of epinephrine (adrenaline)
- Emergency procedures for the advanced aesthetics practitioner
    - Call emergency services for an ambulance immediately – mention that the person may have anaphylaxis
    - Remove any trigger if possible
    - Lie the person down flat – unless they're unconscious, pregnant or having breathing difficulties
    - Use an adrenaline auto-injector if the person has one – if knowledgeable of correct use
    - Give another injection after 5-15 minutes if the symptoms do not improve and a second auto-injector is available

Advanced skin assessment

Taught content

- How to prepare the skin for skin assessment
- The importance of cleansing the skin
- How to complete a facial cleansing routine
- How to remove all make-up from the eyes, lips, face, neck, décolleté or other areas using appropriate products
- How to remove all traces of cleansing products with appropriate toner
- How to perform skin assessment using equipment in line with manufacturer's instructions, working methodically over the area using zonal analysis, observing and recording skin type, tone and characteristics, using visual and tactile skills, using questioning techniques, identifying primary and secondary skin types and conditions
- How to perform a second cleanse using a suitable product appropriate to the analysis findings
- How to complete assessment by applying a suitable moisturiser (as applicable)
- How to give advice and recommendations on products and treatments

LO3 Know how to prepare for and provide advanced skin assessment

Preparation of self and work area for consultation
Taught content
• Ensure safe and hygienic working area • Area is well organised • Private and comfortable area to consult in • All the required paperwork to ensure a professional consultation • Professional appearance that meets workplace standards – appropriate personal presentation for uniform, hair, nails and hygiene

Consultation techniques
Taught content
• Identify the key information necessary to understand and establish the client's expectations, and to achieve the outcome that will be mutually agreed • Ensure the most suitable questioning techniques are used to gain the information – objective, subjective, open questions, ascertain key information, for example medication, contraindications, allergies, sun exposure history, smoking habits, lifestyle, diet and water intake • Identify client's primary and secondary concerns • Adapt and tailor responses appropriately for different clients' needs • Complete all necessary records prior to and following the treatment • Recommend suitable products and/or future treatments to the client following the treatment • Ensure that appropriate aftercare advice is explained to the client • Perform pre-treatment tests if required • Take clinical photographs pre-treatment • Gain signatures and consent prior to treatment and in receipt of aftercare

Advanced skin analysis
Taught content
• Selection of appropriate products to suit skin type • Effective methods of eye make-up removal, lipstick removal, superficial cleanse, skin analysis, deep cleanse, tone, moisturise • Performing a skin assessment to identify client's skin type, condition and characteristics, for example pigmentation and colour variations, skin texture, imperfections, elasticity, temperature and skin and muscle tone

Factors which may limit or affect the desired outcome

Taught content

- Recognise the importance of checking for allergies and contra-indications to avoid reactions, invalidation of insurance policy
- Ensure client suitability by recognising any limiting factors based on high-risk groups, client aims and areas of concern, medical history, skin type/condition/classification, hair type/condition, body type/condition relating to area of treatment, previous treatments and outcomes, current and previous product usage and outcomes
- Provide treatments in line with the age of consent and regulations for treating minors (where applicable)

Treatment planning

Taught content

- Draw on the information gained during the consultation, analyse the personal information presented and its potential impact on treatment recommendations
- Produce a personalised treatment plan for the client
- Explain the treatment plan to include:
    - Treatment method
    - Benefits and effects of treatment – identify what the treatment will and will not do and whether results can be guaranteed
    - Benefits and effects of alternative treatment options
    - Pre-treatment requirements, for example, use of pre-treatment products to enhance the effectiveness of the treatment
    - Risks of treatment
    - Length of treatment – individual treatments, benefits of courses of treatments, importance of time frames for optimum results
    - Sensations of treatment
    - Normal reactions and side effects
    - Potential adverse reactions, risks and how to deal with them
    - Recovery times and restrictions post-treatment
    - Identify any limitations to the treatment
    - Aftercare
    - Treatment costs – details of course of treatment for optimum results if required, costs
- Agree the treatment plan based on consultation and realistic outcomes
- Update relevant records prior to and following the treatment to meet workplace and industry requirements, follow required confidentiality policies/procedures, data protection and any other relevant legislation of the country therein

Assessment requirements

Learners must complete all assessment requirements related to this unit:

1. Assignment – Short Answer Response (SAR)
2. Theory examination

1. Assignment – Short Answer Response (SAR)

Learners must produce a summative assignment for LO3 within this unit (as detailed below), which forms part of the learner's internal assessment. This on demand summative assignment will be used to measure the learner's knowledge and understanding of the supporting theory linked to advanced aesthetic therapies. The short answer response assignment will target indicative content from within the mandatory unit specifications.

The assignment is externally set and internally marked by the centre using guidance and amplifications set by VTCT Skills. This assignment should be completed before the learner is entered for the qualification's individual unit practical and written examinations, at the end of the period of learning. The assignment must contain proficient evidence that the learners have conducted independent research to meet all the assessment criteria below.

At this level, learners are expected to demonstrate a thorough understanding of advanced aesthetic therapies. This includes a deep knowledge of all relevant concepts, theories, and practices, with the ability to analyse and evaluate information from diverse sources. Additionally, learners should articulate complex theoretical ideas clearly and effectively and conduct thorough independent research using a variety of academic sources to support their understanding and arguments.

Learning Outcome	Assessment Criteria
LO3 Know how to prepare for and provide advanced skin assessment	3.1 Preparation of self and work area for consultation
	3.2 Consultation techniques
	3.3 Advanced skin analysis
	3.4 Factors which may limit or affect the desired outcome
	3.5 Treatments planning

2. Theory examination

Learners must complete a theory examination for certain criteria within this unit (as detailed below). This will consist of a multiple-choice question paper which is mapped to the relevant assessment criteria stated below.

The theory examination will test knowledge and understanding from across LO1 and LO2. Learners should use the unit content sections of this unit to aid revision since exam questions will test the full breadth of this content over time.

Questions in the exam will typically require responses that satisfy the demands of the following command verbs: Compare, Explain and Justify.

Learning Outcome	Assessment Criteria
LO1 Know the physiology of skin ageing, inflammatory and remodelling response and the basic anatomy of the eye area, lips and nose	1.1 Theories of ageing
	1.2 Ageing process within the structures of the skin
	1.3 Differences between intrinsic and extrinsic effects on the skin
	1.4 Signs and symptoms of ageing skin
	1.5 Effects of UV light on the skin ageing process
	1.6 Effects of nutrition, illness and medication on skin health
	1.7 Benefits and limitations of treatments and products considered to delay the ageing process
	1.8 Pathological conditions of the skin which may occur as a result of ageing
	1.9 How ageing affects the repair mechanisms of the skin
	1.10 Skin's inflammatory response and remodelling process
	1.11 Anatomy of the eye area, lips and nose

Learning Outcome	Assessment Criteria
LO2 Know how to conduct an advanced skin assessment	2.1 The key characteristics of skin types
	2.2 Skin classification tools
	2.3 The signs and causes of skin conditions
	2.4 The importance of linking skin structure and function to skin condition
	2.5 The benefits and limitations of different equipment used for skin assessment
	2.6 Contra-actions that may occur and how to respond
	2.7 Signs of, and procedure for dealing with anaphylactic shock
	2.8 How to carry out advanced skin assessment

Document History

Version	Issue Date	Changes	Role
v1	09/05/2025	First published	Qualification Development Manager