



THE AUSTRALASIAN COLLEGE
OF DERMATOLOGISTS

Training Program Curriculum

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The College also wishes to express its appreciation to the Royal Australasian College of Physicians for their permission to use outcomes from the RACP Professional Qualities Curriculum and CanMEDS.

Specifically the following professional qualities has been integrated in our curriculum

Communication -	RACP
Quality and Safety -	RACP
Cultural Competency -	RACP
Leadership and Management -	Combination RACP and CanMEDS
Health Advocacy -	CanMEDS
Teaching and Learning -	RACP
Ethics -	RACP

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Broad Learning Outcomes of the ACD Training Program

Overall, by the end of the ACD training program, a trainee will be able to:

- Develop, use appropriately and maintain clinical knowledge in dermatological medicine.
- Maintain currency with understanding of disease pathogenesis and the basic sciences that underpin these.
- Keep abreast of changes in pharmacologic and other therapeutic options and applying these in the best interest of the patient.
- Obtain an accurate history, examine a patient thoroughly and organize and/or perform appropriate investigations to establish a relevant, well-reasoned diagnosis.
- Interpret results of investigations and devise, implement and monitor an effective patient management/treatment plan appropriate to the diagnosis and with consideration of patient wishes and health system resources.
- Develop, use appropriately and maintain clinical knowledge and skills in procedural dermatology.
- Communicate effectively with patients, their family and/or carers, other health care professionals and the community.
- Implement standards associated with quality and safety to ensure patients receive safe, high quality care.
- Acknowledge the impact of culture on health outcomes and be sensitive to the needs of patients from indigenous as well as culturally and linguistically diverse backgrounds.
- Demonstrate effective self-management practices and use management and leadership skills as appropriate.
- Behave professionally, demonstrating integrity, compassion and altruism.
- Identify opportunities for health advocacy, promotion of health and disease prevention with individuals and in communities.
- Continually improve mastery of dermatology by engaging in professional development throughout their career.
- Contribute to the education of patients and their families and/or carers, colleagues, junior doctors and other health care professionals and the development of new knowledge through research.
- Demonstrate a commitment to delivering health care according to ethical codes of practice and legal obligations.
- Function effectively as a specialist dermatologist, integrating clinical expertise and professional qualities to provide optimal medical care to patients.

ACD Training Program Curriculum

The curriculum should be viewed as a series of sections, which together provide a coherent program of study. It provides a framework which specifies the knowledge, skills and behaviour trainees need to learn, and will be assessed on, to determine their competence to practice as a specialist dermatologist.

There are two main parts to the curriculum:

- Clinical Expertise
- Professional Qualities

Part I: Clinical Expertise

Section 1	Clinical Sciences and Pharmacology
Section 2	Fundamentals of Clinical Practice in Dermatology (including Specialist Content Topic Areas)
Section 3	Procedural Dermatology

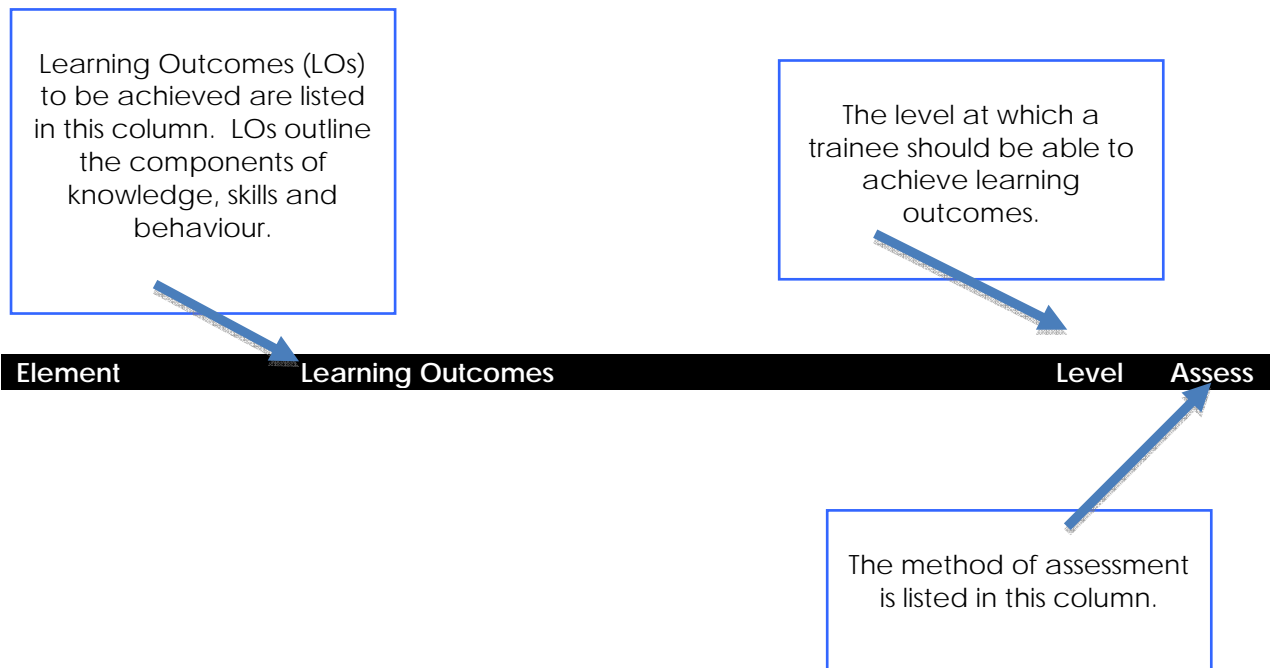
Part II: Professional Qualities

Modules:	Communication
	Quality and Safety
	Cultural Competency
	Leadership and Management
	Health Advocacy
	Teaching and Learning (Scholar)
	Ethics

Refer to page 14 for a diagram of the curriculum.

Curriculum Components

The curriculum is presented in elements and learning outcomes within each section. Elements are a grouping of learning outcomes. All learning outcomes are prefaced with the statement *“By the end of dermatology specialist training, the trainee will be able to”*. Each element, or group of elements, has been allocated a suggested level and method of assessment.



Level

BT - Basic Training

The trainee should be able to achieve the learning outcome by the end of the 2nd year of training.

AT - Advanced Training

The trainee should be able to achieve the learning outcomes by the end of training.

Learning outcomes marked as BT should be attained by trainees by the end of their second year of training. In some instances these learning outcomes, designated as, BT, may not be assessed until the Fellowship Exam.

Assessment

Assessment is closely aligned to the learning outcomes of the curriculum. An assessment method has been identified for each element, or group of elements.

Key:

AT -	Advanced Training
BT -	Basic Training
CS Exam -	Clinical Sciences Exam
Derm-CbD -	Dermatology Clinical Evaluation Exercise (to be trialled in 2013)
Derm-CEX -	Dermatology Clinical Evaluation Exercise (limited trial in 2010)
DP -	Dermatopathology Exam
FExam -	Fellowship Exam
FCP -	Fundamentals of Clinical Practice in Dermatology
LOs -	Learning Outcomes
MSF -	Multi Source Feedback (to be trialled in 2013)
Pharm Exam -	Pharmacology Exam
Portfolio -	Log in Trainee Portfolio
ProDA -	Procedural Dermatology Assessment - 2010 trial
Pub&Pres -	Publication and Presentation Requirements
SITA -	Summative In-Training Assessment

Throughout this document assessment methods being used or trialled this year (2010) appear in black text. Assessment methods to be introduced over the next few years appear as grey text.

Using the Curriculum in Specialist Training

Part I: Clinical Expertise

Section 1 - Clinical Sciences and Pharmacology

The Clinical Sciences and Pharmacology section underpins the Fundamentals of Clinical Practice in Dermatology and Procedural Dermatology sections. Trainees will study the majority of this material in preparation for the Clinical Sciences Exam and Pharmacology Exam. Some elements, for example those relevant to applied clinical sciences, will not be assessed until the Fellowship Exam and are so marked.

Section 2 - Fundamentals of Clinical Practice in Dermatology (including Specialist Content Topic Areas)

The Fundamentals of Clinical Practice in Dermatology (FCP) outlines the core competencies critical to the safe and competent practice of dermatological medicine. These competencies should be applied when managing every patient, regardless of the presenting problem.

Supervisors should reinforce these fundamental principles when observing trainees with patients, and will assess them when completing work-based assessments on trainees (for example, the Dermatology Clinical Evaluation Exercise (Derm-CEX)) and in the future, the Case-based Discussion (CbD).

Specialist Content Topic Areas

At various points through the FCP the learning outcomes refer to specialist content topic areas, for example, within the element *“Examine the Skin”* a knowledge learning product is *“Identify and be able to describe the usual and unusual clinical features and presentations of each disease/disorder listed in the specialist content topic areas#.”*

A summary of learning outcomes pertaining to the specialist content topic areas is listed below and at the start of the specialist content topic areas sub-section.

For each disease or disorder listed in the specialist content topic areas, trainees will be able to:

- Describe the usual and unusual clinical features;
- Identify typical, atypical and treatment-modified presentations;
- Ask further questions related to the history and examination of the patient, targeted to relevant aspects of the disease/disorder;
- Develop accurate, relevant, differential diagnoses based on information from history, physical examination and investigations;
- Perform specific clinical investigations for different presentations;
- Describe and discuss the relevant histopathology and other relevant investigation results;
- Formulate a management/treatment plan, guided by patient preference, health system and patient constraints/resources, using the most appropriate options which may include:
 - General advice
 - Topical therapies
 - Systemic therapies
 - Physical therapies
 - Ancillary and other therapies
- Arrange short, medium or long term follow-up, as indicated.

The specialist content topic areas sub-section provides an indication of the diseases and disorders trainees are required to learn.

Detailed knowledge of some conditions is mandatory (those marked with an asterisk) and a good knowledge of ALL conditions areas is required. Supervisors and trainees should use the specialist content topic areas to guide the breadth of study and the asterisks as an indication of the depth of knowledge required.

The College expects trainees to be most familiar with conditions they will see frequently and that are remediable. There are conditions that are seen in few patients, such as some rare genodermatoses and in these instances, trainees should appreciate how such conditions add to the fundamental understanding of the disease process, rather than studying the individual characteristics or management and treatment of each condition in detail.

The topic areas included in the curriculum provide a comprehensive overview of the discipline of dermatology, rather than an exhaustive list of every possible variant of any given condition.

During the training program, and when practising as a specialist dermatologist, practitioners may be presented with a disease/disorder that is not easily diagnosed and/or treated. Practitioners should develop the capability to return to foundation principles to effectively evaluate and manage all patients (refer to Section Two: Fundamentals of Clinical Practice in Dermatology).

The topic areas are grouped according to the level at which trainees should be competent to manage a patient with that condition.

It is acknowledged that for the specialist content topic areas there is a continuing evolution of competency, which means that trainees will become more proficient as their training progresses. Conditions that are frequently seen and could be managed by a trainee within the first few years of commencing the training program have been grouped as basic training topic areas. Trainees should be able to manage a patient with such a disease/disorder by the start of their third year of training. Diseases/disorders that require more experience to manage are grouped as advanced training topic areas, indicating that a trainee should be able to manage a patient with such a condition by the end of their training program.

Trainees are expected to use the specialist content topic areas as a starting point in their learning of the many diseases/disorders that constitute the discipline of dermatology. By using the resource list, the structured learning activities provided in their region and the clinical experience offered by staff at accredited training posts they will be in a position to achieve the learning outcomes for each disease/disorder.

Supervisors should advise trainees on any additional resources they feel would be useful to the trainee to learn more about specific topic areas. Tutorials and case-based discussions and clinical problem-solving exercises (focussing on diseases/disorders marked with an asterisk) and planned clinical experience (eg. trainees given the opportunity to be involved in less common, interesting cases) will help trainees achieve the learning outcomes. The specialist content modules have been developed to allow flexibility in teaching and learning methods of Supervisors and their trainees. Learning outcomes that commence with "describe", "discuss", "explain", "outline" etc. are most suited to self-directed learning and reading textbooks and articles for foundation knowledge.

Trainees should be encouraged to use the specialist content topic areas to direct their further investigation of diseases and/or disorders relevant to their practical, clinical experience.

For Supervisors, this section of the curriculum can be used as a framework for trainees' self-directed learning. For example; encourage trainees to expand their knowledge on a topic area prior to a clinic (suggest they concentrate on those conditions with an asterisk or a particular condition relevant to a patient you will be reviewing); or to follow-up on a specific case seen on the ward. For example, did you consider why you have not included these particular conditions in your differential diagnosis?

Section 3 - Procedural Dermatology

Procedural Dermatology outlines the core competencies essential to the safe and competent practice of dermatological surgery.

"General Considerations", at the start of this section, details generic elements and learning outcomes here are applicable to all procedures. The learning outcomes for each specific procedure in this section, and are in addition to learning outcomes listed in "General Considerations".

Procedural Dermatology Assessment (ProDA) forms reflect the learning outcomes of the relevant procedure in the procedural dermatology section of this curriculum. Trainees are required to keep an up to date log of all procedures performed during the training program.

Part II: Professional Qualities

The acquisition of professional qualities outlined in this curriculum is essential in order to provide high-quality care for patients. Professional qualities are usually learnt indirectly with the trainees' involvement in everyday clinical practice, through the observation of specialist dermatologists and their interactions with patients and families, colleagues, other health care professionals and administrative personnel. Supervisors can encourage the direct learning of professional qualities through learning activities such as critical or significant incident analyses (eg. quality and safety issues) or case based discussions (eg. highlighting the consideration of cultural issues or an ethical dilemma).

Trainees are currently assessed on some of the professional qualities they demonstrate during their training program, using the Summative In-Training Assessment form (SITA) (completed at six monthly intervals). In the future, Multi-Source Feedback forms will provide an additional assessment based on the opinions of more people who have worked with the trainee. Some professional qualities are assessed by the completion of publication and presentation requirements (eg. Teaching and Learning), the Derm-CEX (eg. Communication), and the Fellowship Exam (eg. Communication, Ethics, Quality and Safety).

ACD Training Program Curriculum

PART 1: CLINICAL EXPERTISE

Section 1: Clinical Sciences and Pharmacology

Section 2: Fundamentals of Clinical Practice

Section 3: Procedural Dermatology

	Initial Communication	Patient Selection	
	History and Consent	Absolute and Relative Contraindications	
	Patient Examination	Document Condition and Consent	
	Clinical Decisions and Diagnoses	Prepare Patient and Perform Procedure	
	Treatment Management Plans	After Care and Follow-up	
Specialised Content Topic Areas		Procedures	
Eczemas/Dermatitis	<i>Emergency Dermatology</i>	Biopsy	
Papulosquamous	Lymphoproliferative and Myeloproliferative Disorders	Shave excision/saucerisation	
Exanthems and Drug Eruptions	Non-Infectious Neutrophilic and Eosinophilic Dermatoses	Electrosurgery	
Skin Neoplasms	Disorders of Langerhans Cells and Macrophages	Curettage	
Infections	Disorders of Dermal Connective Tissue	Excisional Surgery	
Adnexal Diseases	Disorders of Subcutaneous Fat	Cryotherapy	
Urticaria, Erythema and Purpuras	Vascular and Lymphatic Disorders	Phototherapy	
Pigmentary Disorders	Genodermatoses	Pulsed Dye Laser	
Infestations and Bites	Skin Signs in Patients with Systemic Disorders	Other Laser and Light Procedures Including tattoo lasers, pigment lesion lasers, ablative lasers, hair removal lasers, other vascular lasers, intense pulse light	
Autoimmune Connective Tissue Disease/Rheumatic Disease	Metabolic and Systemic Disorders		
Disorders of Hair	Psychocutaneous Diseases	Other Dermatological Procedures including photodynamic therapy, intralesional treatments Topical chemotherapy or immunotherapy and radiotherapy	
Disorders of Nails	<i>Dermatoses of Specific Populations</i>		
Disorders of Sweat Glands	<i>Infants</i>	Cosmetic Procedures including injectable filler procedures, injectable muscle relaxants, chemical peels, scare revision procedures and sclerotherapy	
Oral and Anogenital Disease	<i>Pregnant Women</i>		
Vesiculobullous Disease	<i>The Elderly</i>	Advanced Surgical Procedures including Mohs Surgery, complex flaps, wedge resection of ear and lip and composite grafts	
Disorders due to Physical Agents	<i>Aboriginal and Torres Strait Islander Peoples</i>		

PART 2: PROFESSIONAL QUALITIES

Communication	Quality and Safety	Cultural Competency	Leadership and Management	Health Advocacy	Teaching and Learning (Scholar)	Ethics
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Clinical Expert integrating Professional Qualities into Everyday Practice

CLINICAL EXPERTISE:
Clinical Sciences
and
Pharmacology



Clinical Sciences

Element	Learning Outcomes	Level	Assess
Trainees should be able to describe and discuss:			
Anatomy	Anatomy of the skin and relevant aspects of the musculo-skeletal, vascular and neurological systems.	BT	CS Exam
	Microscopic and Ultrasopic Anatomy <ul style="list-style-type: none"> • Structure of skin - epidermis, dermis and subcutis • Basement membrane zone • Appendages - hair, nails & glandular structures • Cutaneous vasculature including lymphatics • Cutaneous nerves 		
	Macroscopic Anatomy <ul style="list-style-type: none"> • Anatomy of the face • Anatomy of neck • Anatomy of hands and feet <p>This includes:</p> <ul style="list-style-type: none"> • Sensory and motor nerves • Blood vessels • Lymphatic system and drainage • Superficial musculoaponeurotic system <p>Superficial projection of deeper structures:</p> <ul style="list-style-type: none"> • Bony landmarks • Midpupillary line • Anterior border of masseter muscle • Facial nerve (including danger zones) • Sensory and motor nerves of the face • Major arteries and veins of the face • Major arteries, veins and nerves of the legs 	AT	FExam
Macroscopic Anatomy <ul style="list-style-type: none"> • Junction lines • Cosmetic units and landmarks • Danger zones • Undermining planes • Skin tension lines • Free margins • Aesthetic considerations • Effects of ageing on anatomical landmarks • Muscles of facial expression 			

Element	Learning Outcomes	Level	Assess
<i>Biochemistry and Physiology of Skin</i>	<p>Physiology of the skin and relevant aspects of the musculo-skeletal, vascular and neurological systems</p> <p>Function of the basement membrane zone</p> <p>Thermoregulation</p> <p>Ageing - intrinsic mechanisms (see also photoageing below)</p> <p>Skin appendages</p> <ul style="list-style-type: none"> • Sebaceous glands • Eccrine glands • Apocrine glands • Endocrine control of glands • Hair, including keratins and hair cycle • Nails, including keratins • Epidermal keratins • Melanocyte function, including melanin biosynthesis, eumelanin and phaeomelanin • Relationship of melanocytes to UV radiation • Components of the basement membrane zone • Dermal proteins including collagen and elastin and their metabolism • Integrins including laminin and fibronectin • Extracellular matrix • Ground substance • Inflammatory mediators including mast cell biochemistry • Metabolism of the skin • Carbohydrate metabolism • Calcium metabolism and calcification of skin • Lipid metabolism • Porphyrin metabolism • Cutaneous barrier function 	BT	CS Exam
<i>Embryology</i>	<p>Development of skin</p> <ul style="list-style-type: none"> • Early foetal development • Late foetal development • Epidermal, dermal and subcutaneous development • Skin appendage development • Epidermal stem cells • Epidermal proliferative units 	BT	CS Exam/ Pub& Pres
<i>Immunology</i>	<p>Innate Immune Response</p> <ul style="list-style-type: none"> • Inflammatory responses, including the complement system • Toll-like receptors • Cytokines • Phagocytosis • Neutrophil function • Eosinophil function • Mast cell function • Other inflammatory cells 	BT	CS Exam

Element	Learning Outcomes	Level	Assess
	Adaptive Immune Responses <ul style="list-style-type: none"> • Structure, function and development of adaptive immune responses • Humoral (B Cell) immunity, including immunoglobulins • Complement system • T-Cells immunity, including - antigen presenting cells, cell trafficking, T-Cell subsets (TH1 and TH2 responses) • HLA recognition system (major histocompatibility complex) • Cytokines including chemokines 		
Autoimmunity	Mechanisms of autoimmune disease <ul style="list-style-type: none"> • Genetics of autoimmunity • Tolerance and autoimmunity • Innate immunity and autoimmunity, including dendritic cells and toll-like receptors • Environmental factors 	BT	CS Exam
Role of Vascular System in Immunity and Wound Repair	Endothelial inflammation <ul style="list-style-type: none"> • Role of endothelium in innate immunity • Role of endothelium in adaptive immunity • Skin microvessels in inflammation and repair • New vessel formation Concepts of wound repair <ul style="list-style-type: none"> • Coagulation and inflammation • Proliferation, migration and remodelling • Growth factors and cytokines and integrins in wound repair • Extracellular matrix proteins in wound repair 	BT	CS Exam
Epidemiology	<ul style="list-style-type: none"> • Basic epidemiological concepts • Basic epidemiological terminology • Types of epidemiological studies • Measures of disease frequency • Importance of measures of disease association • Concepts of validity and precision as applied to epidemiologic studies • Concepts of disease association and causation • Concepts of evidence-based medicine 	BT	CS Exam/ Pub& Pres
Genetics	<ul style="list-style-type: none"> • Genetic nomenclature • Principles of medical genetics • The human genome • DNA structure and function • Chromosome structure and function • Mode of inheritance: <ul style="list-style-type: none"> • Mendelian - autosomal, sex-linked • Polygenic • Concepts of mosaicism, lyonisation and the lines of Blaschko • Gene expression • Histocompatibility complexes - major and minor, 	BT	CS Exam

Element	Learning Outcomes	Level	Assess
	<ul style="list-style-type: none"> including HLA system • Variability of genetic diseases - penetrance, expressivity, pleiotropy and heterogeneity • Mechanisms of gene mutation and polymorphisms • Epigenetics • Mechanisms of chromosomal abnormalities - number or structure • Oncogenes and tumour suppressor genes relevant to skin diseases • Carcinogenesis • DNA repair • Methods of determining genetic influences on skin disorders eg. genetic link analysis 		
Electromagnetic Radiation (EMR)	<ul style="list-style-type: none"> • The nature of EMR • The EMR spectrum 	BT	CS Exam
	<p>Ultraviolet light including UVA1, UVA2, broadband UVB, narrowband UVB and UVC)</p> <ul style="list-style-type: none"> • Production and sources • Physical characteristics • Interaction with matter • Biological effects. including photoimmunity and photoageing, photocarcinogenesis 		
	<p>Lasers</p> <ul style="list-style-type: none"> • Production and sources • Physical characteristics • Interaction with matter • Biological effects 		
	<p>X-rays and ionising radiation</p> <ul style="list-style-type: none"> • Production and sources • Physical characteristics • Interaction with matter • Ionisation • Biological effects 		
	<p>Visible light</p> <ul style="list-style-type: none"> • Production and sources • Physical characteristics • Interaction with matter • Biological effects 		
	<p>Ultraviolet therapy</p> <p>Principles of:</p> <ul style="list-style-type: none"> • Therapeutic modalities and sources, including narrow band UVB, broad band UVB, photochemotherapy, broad UVA, UVA1 • Measurement and units of dose • Operating principles of ultraviolet equipment, 	AT	FExam ProDA

Element	Learning Outcomes	Level	Assess
	<p>including electrical circuit and components, earthing, timing</p> <ul style="list-style-type: none"> • Ultraviolet safety <hr/> <p>Lasers</p> <p>Principles of:</p> <ul style="list-style-type: none"> • Therapeutic modalities and sources • Measurement and units of dose • Operating principles of ultraviolet equipment including electrical circuit and components • Laser safety <hr/> <p>Radiotherapy</p> <p>Principles of:</p> <ul style="list-style-type: none"> • Characteristics • Quality • X-ray production, filtration and dose • Interaction of radiation and living matter • Radiation injury of skin • Radiation safety and shielding 		
Microbiology	<p>Organisms that are part of normal flora and pathogenic bacteria</p> <p>Portal of entry</p> <p>Natural resistance of skin, including antimicrobial peptides</p> <p>Host response to bacterial infection</p> <p>Pathogenicity of bacteria</p> <p>Concept of hypersensitivity</p> <p>Concept of bacterial superantigens and toxins</p> <p>Bacteria:</p> <ul style="list-style-type: none"> • Gram positive, including streptococci, staphylococci, erysipelothrix, nocardia, actinomyces, listeria, clostridia bacillus anthracis, brucella and corynebacteria • Gram negative, including haemophilus, meningococci, pseudomonas, gonococcus, leptospira, bartonella, rickettsia, salmonella, klebsiella, pasturella, burkholderia, vibrio species, and gram negative organisms causing sexually transmitted diseases • Myobacteria, including mycobacterium leprae, mycobacterium tuberculosis and atypical mycobacteria • Spirochetes: borrelia, treponemes <hr/> <p>Fungi</p> <p>Epidermiology of fungal infections</p> <p>Microscopic appearance of fungi</p>	AT	FE Exam

Element	Learning Outcomes	Level	Assess
	<p>Specific fungi:</p> <ul style="list-style-type: none"> • Fungi causing superficial mycoses, including dermatophytes, candida, pityrosporum, horteia and piedra • Fungi causing subcutaneous mycoses, including chromoblastomycosis, mycetoma and sporothrix schenckii • Fungi causing systemic mycoses, including cryptococcosis, histoplasmosis, zygomycosis, blastomycosis, coccidioidomycosis and paracoccidioidomycosis • Opportunistic pathogens, including aspergillosis, zygomycosis, phaeohyphomycosis, and hyalohyphomycosis 		
	<p>Viruses</p> <p>Concepts of viral replication</p> <p>Host response to viral infection</p> <p>Viral oncogenesis</p> <p>Specific viral groups:</p> <ul style="list-style-type: none"> • Herpes virus: HSV, HZV, HHV 6,7 • Human papilloma virus (HPV) • Poxvirus group: molluscum, orf, vaccinia, variola • Retro-virus group HIV, HTLV • Paramyxovirus: measles, mumps • Togavirus: rubella, Ross River virus, Barmah Forest virus • Parvovirus • Adenovirus • Epstein-Barr virus • Cytomegalovirus • Picornavirus: enterovirus including coxsackie, echovirus • Hepatitis virus group • Arenavirus: Lassa • Filovirus: Marburg and Ebola 		
<i>Parasites and Protzoa</i>	<p>Life cycle and microscopic anatomy of:</p> <ul style="list-style-type: none"> • Sarcoptes scabiei • Pediculosis capitis and humanus • Leishmania • Toxoplasma • Enerobius vermicularis • Ancylostoma • Schistosoma • Pathogenic amoebae 	BT	CS Exam
<i>Histopathology</i>	<p>Histology of normal skin, including site specificity</p> <p>Histological features of skin disease:</p> <ul style="list-style-type: none"> • disorders of epidermis, dermis, subcutis • tissue reaction patterns • infections and infestations • genodermatoses and systemic disease 	BT	DP

Element	Learning Outcomes	Level	Assess		
	<ul style="list-style-type: none"> tumour pathology: benign and malignant 				
	Specimen collection <ul style="list-style-type: none"> Appropriate biopsy for condition Appropriate technique for skin, mucosa, hair or nail Adequate sample eg. new vs established lesion, active edge vs resolved centre, perilesional for direct immunofluorescence Use of adrenaline Correct handling to avoid artefact Correct labelling of container - two identifiers Appropriate transport medium - formalin, fresh, special media 				
	Tissue processing <ul style="list-style-type: none"> Adequate macroscopic description, including how much of the specimen is sampled Standard stains Special stains for infective organisms or infestations - fungi, bacteria, parasites Special stains for specific cell types, extracellular tissue and cutaneous deposits Direct immunofluorescence Immunohistochemistry - basic knowledge of common immunoperoxidase stains Molecular techniques - relevance and reliability for specific skin diseases 				
	Techniques for investigation of infectious disease <ul style="list-style-type: none"> Specimen collection Specimen processing Microscopy - fungi and parasites 			BT	DP
	Microscopic examination <ul style="list-style-type: none"> Use a microscope to examine and interpret a histopathology specimen 			AT	DP
<i>Electrosurgery</i>	<ul style="list-style-type: none"> Operating principles of electrosurgical devices including electrical circuit and components Electrosurgical safety 	AT	FExam ProDA		
	Electrocautery <ul style="list-style-type: none"> Mechanism Apparatus 				
	High frequency electrosurgery <ul style="list-style-type: none"> Mechanism Apparatus 				

Pharmacology

Element	Learning Outcomes	Level	Assess
	<p><i>For each of the drugs/agents listed in the table below, describe and discuss the:</i></p> <ul style="list-style-type: none"> • <i>structure</i> • <i>absorption, biological half life and bioavailability</i> • <i>metabolism and excretion</i> • <i>mechanism of action</i> • <i>indications</i> • <i>contraindications</i> • <i>adverse effects</i> • <i>drug interactions</i> • <i>monitoring guidelines</i> • <i>therapeutic guidelines (including pregnancy and breastfeeding categories)</i> 	BT	Pharm Exam
<i>Systemic Drugs for Infectious Diseases</i>	<ul style="list-style-type: none"> • Systemic antibacterial agents • Systemic antifungal agents • Systemic anti viral agents • Systemic anti parasitics 		
<i>Systemic Immuno-modulatory and Antiproliferative Agents</i>	<ul style="list-style-type: none"> • Systemic corticosteroids • Methotrexate • Azathioprine • Mycophenolate mofetil • Cytotoxic agents • Cyclosporin and related drugs • Dapsone • Anti-malarial agents • Systemic retinoids • Interferons 		
<i>Drugs used in conjunction with Ultraviolet or Visible Light</i>	<ul style="list-style-type: none"> • PUVA photochemotherapy (topical and systemic) • Extracorporeal photochemotherapy • Photodynamic therapy 		
<i>Biological Therapeutics</i>	<ul style="list-style-type: none"> • Tumour Necrosis Factor (TNF) inhibitors • Other available biologic agents used to treat skin disease eg. IL12 inhibitors 		
<i>Miscellaneous Systemic Drugs</i>	<ul style="list-style-type: none"> • Antihistamines • Vasoactive and antiplatelet agents • Antiandrogens • Psychotropic agents • Intravenous Immunoglobulin Therapy (IVIG) • Anti-cholinergic agents and attenuated androgens • Colchicine, nicotinamide, potassium iodide, androgens • Thalidomide, clofazamine • Penicillamine • Nonsteroidal anti inflammatory drugs (NSAIDs) 		

Element	Learning Outcomes	Level	Assess
	<ul style="list-style-type: none"> • Biotin, Vitamin D and E, Zinc • Fumeric acid • Anti-epileptics and other agents used in chronic pain 		
<i>Topical Drugs for Infectious Diseases</i>	<ul style="list-style-type: none"> • Topical antibacterial agents • Topical antifungal agents • Topical and Intralesional anti-viral agents • Antiparasitic agents 	BT	Pharm Exam
<i>Topical Immuno-modulatory and Antiproliferative Drugs</i>	<ul style="list-style-type: none"> • Topical and intralesional corticosteroids • Topical retinoids • Topical and intralesional chemotherapeutic agents • Topical contact allergens • Topical Calcineurin Inhibitors • Topical Vitamin D₃ • Topical Imiquimod 		
<i>Miscellaneous Topical Drugs</i>	<ul style="list-style-type: none"> • Sunscreens • Therapeutic shampoos, soaps and other skin cleansers • Alpha-hydroxy acids • Agents used for hyperkeratosis • Insect repellents • Topical antioxidants, including vitamin A,C,D, E and K • Topical haemostatic agents, including aluminium chloride and ferric subsulfate • Other topical agents, including minoxidil and anthralin (dithranol) and benzoyl • Bleaching agents/skin whiteners • Topical dressings • Topical tars <p>The principles of:</p> <ul style="list-style-type: none"> • different types of formulations including creams, ointments, gels and emulsions • extemporaneous formulations and ordering preparations to be made 		
<i>Cosmeceutical</i>	<p>Describe and discuss:</p> <ul style="list-style-type: none"> • minerals - copper, selenium and zinc • antioxidants • growth factors • peptides/proteins - signal, carrier and transmitter blocking • botanicals - antioxidants, anti-inflammatory and soothing agents • moisturisers - occlusive, humectants and emollients <p>Be familiar with major new agents and methods (eg. nanotechnology) reported in the literature that have potential clinical relevance.</p>		

Element	Learning Outcomes	Level	Assess
<i>Injectable and Mucosal Routes of Drug Administration</i>	<ul style="list-style-type: none"> • Local anaesthetics, including injectable local anaesthetics, topical anaesthetics, co-injectable vasoconstrictors • Mucosal therapeutics • Cosmetic applications including botulinum toxin A and filler agents 		

CLINICAL EXPERTISE:
Fundamentals of
Clinical Practice
in Dermatology



Element	Learning Outcomes	Level	Assess
Initial Communication			
<p><i>Establish a therapeutic relationship with the patient and carers (as appropriate)</i></p>	<p>Introduce self to patient and others present in an appropriate and professional manner.</p> <p>Arrange for a suitable health professional (eg. Aboriginal health worker or interpreter) to assist in establishing a relationship with the patient and help with language and communication difficulties, as appropriate.</p> <p>Establish the identity and relationship of all people present and arrange appropriate seating.</p> <p>Establish initial rapport with the patient and/or others present through making eye contact, acknowledging issues raised in the referral letter and reflective listening to the patient's history.</p> <p>Apply communication skills to engage, reassure, inform, empower and support the patient in all encounter situations/circumstances.</p> <p>Demonstrate active listening by:</p> <ul style="list-style-type: none"> • making appropriate eye contact • asking open-ended questions • responding to verbal and non-verbal cues • clarifying information provided by patient • clarifying patient's understanding of information delivered <p>Use body language appropriately.</p> <p>Use various questioning techniques to elicit information from the patient.</p> <p>Identify scenarios where information may be withheld.</p> <p>Communicate using plain English in a way the patient can understand.</p> <p>Become conversant with teledermatology consultations as a mechanism of consultation, including but not limited to technical, clinical, privacy and consent issues.</p> <p>Apply these communication skills in encounters with patient's family members and concerned others, keeping in mind issues of patient autonomy and confidentiality.</p>	BT	MSF/ CEX

Element	Learning Outcomes	Level	Assess
History and Consent			
<i>Obtain a history</i>	<p>General History</p> <p>Elicit a relevant history from the patient, family member, carer or advocate of the patient's problem.</p> <p>Record history accurately and legibly and ensure records facilitate continuity of care.</p>	BT	CEX/ FExam
	<p>Relevant Dermatological and Medical History</p> <p>Elicit the history of the presenting condition including:</p> <p>Onset, progression, symptoms</p> <ul style="list-style-type: none"> • severity • distribution • exacerbating/relieving features • associated features • response to previous treatment <p>Categorise the onset, course and duration</p> <ul style="list-style-type: none"> • acute • subacute • chronic • intermittent <p>Elicit the history and assesses relevance of other:</p> <ul style="list-style-type: none"> • active dermatological conditions • past dermatological conditions • past or current general medical conditions, medication, treatment and/or surgery • known allergies • mental illnesses • social impacts • smoking, alcohol and recreational drug use 		CEX/ FExam
	<p>Relevant Family History</p> <p>Elicit the family history of dermatological, general medical and psychiatric illnesses and assess relevance.</p>		CEX/ FExam
	<p>Relevant Psychological History</p> <p>Consider the psychosocial aspects of the condition.</p> <p>Evaluate the patient's social situation.</p> <p>Assess the impact of the condition upon the patient's life.</p> <p>Determine the patient's expectations of the outcome of the consultation and treatment.</p> <p>Identify the factors in the history that may influence the</p>		CEX/ FExam

Element	Learning Outcomes	Level	Assess
	<p>disease course and/or the response to treatment including:</p> <ul style="list-style-type: none"> • cultural factors • religious and other beliefs • activities/physical factors: occupational, recreational, educational, sporting • independence: emotional, physical and financial • geographic location • social situation and support • sexual activity, contraception and pregnancy planning • work environment • finances • compliance issues <p>Recognise potential issues for the patient, family and their associates including:</p> <ul style="list-style-type: none"> • impact on patient's family • impact on employment • financial impact of the condition • impact on the development and education of patient (when relevant) • impact on specific psychosocial elements including self esteem, social interaction 		
<i>Obtain informed consent</i>	<p>Determine the nature of consent. Consent may relate to:</p> <ul style="list-style-type: none"> • physical examination • visual documentation • treatment • a surgical procedure • release of information • financial estimate of treatment or procedure <p>Determine the appropriate form of consent appropriate to circumstance and medico-legal requirements:</p> <ul style="list-style-type: none"> • verbal • written <p>Determine the responsible person</p> <ul style="list-style-type: none"> • The person providing consent will usually be the patient, however, they may be a parent, relative, carer, advocate or a responsible person within an indigenous patient's community • Be aware of the age at which a teenager may give consent independent of their parents 	BT	ProDA CEX / FExam
<i>Maintain accurate records</i>	<p>Ensure all records are:</p> <ul style="list-style-type: none"> • dated and signed, contemporaneous • record who is present at the consultation, as appropriate • stored in a secure manner <p>Write legible and succinct notes and accurately</p>	BT	CEX/ CbD/ FExam

Element	Learning Outcomes	Level	Assess
	summarise complex cases. Comply with all ethical, professional and legislative and workplace requirements in the management of patient information including communication with third parties.		

Element	Learning Outcomes	Level	Assess
Patient Examination			
<i>Set up environment</i>	<p>Optimise examination environment to ensure safe work practice and minimise error.</p> <p>Maintain Standard Precautions and OH&S principles.</p> <p>Ensure:</p> <ul style="list-style-type: none"> • patient privacy and modesty • comfortable room temperature • adequate light and magnification • chaperone is introduced and present when indicated or requested <p>When practising in remote communities, anticipate issues concerning facilities and plan accordingly.</p>	BT	CEX
<i>Prepare patient for examination</i>	<p>Explain the reason for examination.</p> <p>Explain the nature and extent of the examination.</p> <p>Engage the services of a suitable health professional (eg. Aboriginal health worker or interpreter) to assist in preparing the patient for the examination.</p>		
<i>Examine the skin</i>	<p>Ensure adequate exposure of the areas to be examined.</p> <p>Examine patient in a respectful and sensitive manner with consideration of individual patient's rights.</p> <p>Examine the problem presented by the patient and other relevant areas of skin, mucosae, hair and nails.</p> <p>Describe distribution, colour and basic morphological findings:</p> <p>Primary</p> <ul style="list-style-type: none"> • Macules • Patches • Papules • Plaques • Nodules • Vesicles • Bulla • Pustules • Weals <p>Secondary</p> <ul style="list-style-type: none"> • Scales • Crusts/Eschars • Erosions/Ulcers • Excoriations • Lichenification 	BT	CEX/ FExam

Element	Learning Outcomes	Level	Assess
	<ul style="list-style-type: none"> • Fissures and Atrophy • Scars • Pigmentary changes/post-inflammatory <p>Specific skin lesions</p> <ul style="list-style-type: none"> • Telangiectasia • Petechiae • Purpura • Hair and nail changes • Comedones • Milia • Cysts <p>Recognise potentially serious skin disease.</p> <p>Perform effective triage: Recognise patients requiring immediate assessment and treatment and differentiate from less urgent.</p> <p>Identify incidental findings during the examination that are unrelated to the patient's complaint.</p>		
	<p>Identify and be able to describe the usual and unusual clinical features and presentations of each disease/disorder listed in the specialist content topic areas#.</p> <p>As appropriate further refine the history elicited from the patient, targeted to relevant aspects of diseases/disorders listed in the specialist content topic areas#.</p>	AT	
<p><i>Perform dermoscopy, as appropriate</i></p>	<p>Understand the roles of dermoscopy, in particular to distinguish and identify melanocytic from non-melanocytic and benign lesions from melanoma.</p> <p>Identify skin lesions where dermascopic examination is appropriate.</p> <p>Explain to the patient what is to occur and warn the patient if oil or other liquid is to be used on the skin.</p> <p>Identify the dermoscopic features of the lesion under examination.</p> <p>Understand and recognise the dermoscopic features of non-melanocytic and melanocytic skin lesions#.</p> <p>Recognise how dermoscopic findings may vary at "special sites" on the skin, especially facial skin, acral skin and genital.</p> <p>Undertsand the differences in performance between different dermoscopic techniques ie contact versus non-contact dermoscopy.</p>	BT/AT	CbD / FExam

Element	Learning Outcomes	Level	Assess
	<p>Understand the various algorithms which may be used for the dermoscopic analysis of pigmented lesions and develop a consistent approach to the systematic dermoscopic evaluation of lesions.</p> <p>Understand the role of dermoscopic digital photography and monitoring of lesions (short and long term).</p>		
<i>Conduct systemic examination</i>	Examine specific organ systems relevant to the specific or associated diseases and/or the treatment proposed.	BT	CEX /FExam
<i>Perform specialised examination</i>	<p>Conduct examination using Wood's light and whole body photographs, as indicated.</p> <p>Perform microscopy of skin scrapings or nail clippings, and/or hair analysis, as appropriate.</p>	BT	CEX/FE
<i>Record examination findings</i>	<p>Record clinically significant findings, including those that may be incidental.</p> <p>Use diagrams, photographs and other visual documentation as required to enhance completeness and accuracy of records.</p>	BT	CEX/ CbD/ FExam

refer to the Specialist Content Topic Areas within this section of the curriculum.

Element	Learning Outcomes	Level	Assess
Clinical Decisions and Diagnoses			
<i>Develop a relevant differential diagnosis</i>	<p>Develop a relevant provisional clinical diagnosis based on information from clinical history, physical examination findings (including dermoscopy), and knowledge of dermatological disease.</p> <p>Collect additional relevant data to refine provisional diagnosis.</p> <p>Develop relevant differential diagnosis.</p>	BT	CbD / CEX FExam
<i>Discuss immediate management plan with patient</i>	<p>Formulate immediate management plan arranging further investigations and follow-up as required.</p>	BT	CbD/ CEX
<i>Develop and implement a relevant investigation plan to aid in refining working diagnosis</i>	<p>Establish the attitude of the patient and their community to investigations before commencing.</p> <p>Perform specific clinical investigations for different presentations of diseases/disorders listed in the specialist content topic areas#.</p> <p>Request appropriate blood tests.</p> <p>Prepare referrals for tests to be performed by other practitioners.</p> <p><u>Skin biopsy</u></p> <p>Evaluate need for a skin biopsy. Be familiar with conditions where a diagnosis is likely to be confirmed by a biopsy.</p> <p>Determine appropriate site, method of biopsy and number of specimens to be taken and method of biopsy (refer to Procedural Dermatology Section re performing a biopsy).</p> <p>Provide appropriate clinical information (including differential diagnosis) and indicate biopsy site(s) on histopathology request form.</p> <p>Request histopathology evaluation of biopsy material.</p> <p>Request additional specialised evaluations of tissue such as special stains, immunohistochemistry, immunofluorescence and microbiology as indicated.</p> <p><u>Patch testing</u></p> <p>Identify common allergens (such as those in the standard series) and where they may be found.</p> <p>Demonstrate how patch testing is performed.</p>	BT/AT	CbD / FExam

Element	Learning Outcomes	Level	Assess
	<p>Read and interpret results and decide on the relevance of positive reactions.</p> <p>Be aware of factors (patient or treatment related) that may impact on patch testing eg. patients receiving immunosuppressive therapy.</p>		
<i>Interpret and apply findings of histopathology reports.</i>	<p>Confirm patient details and nature of specimen(s) matches the described findings.</p> <p>Consider possibility of specimens having been transported in the wrong container if description and microscopy of multiple specimens does not match the clinical lesions.</p> <p>Ensure macroscopic description conveys nature and adequacy of sampling tissue.</p> <p>Understand microscopic description, looking for appropriate positive and negative findings to support a preferred diagnosis or differential diagnosis.</p> <p>Develop ability to systematically and critically review slides and reports from patients with inflammatory dermatoses, infections, infestations, benign and malignant tumours.</p> <p>Communication with histopathologist:</p> <ul style="list-style-type: none"> • Review sections with histopathologist where relevant • Discuss appropriate differential diagnoses • Participate in clinicopathological review as required. 	AT	CbD / DP FExam
<i>Interpret and apply findings of other investigations</i>	<p>Evaluate results of other investigations.</p> <p>Refine differential diagnosis.</p> <p>Identify associated disorders.</p> <p>Establish working diagnosis and make appropriate clinical decisions based on the evidence collected.</p> <p>Refer patient to another practitioner, as indicated.</p>	BT/AT	CbD/ FExam
<i>Use other pertinent evidence to inform clinical decision making</i>	<p>Demonstrate ability to retrieve high-quality information from electronic sources.</p> <p>Demonstrate the ability to retrieve, comprehend and apply results of systematic reviews, clinical prediction rules, decision analysis and clinical practice guidelines to management of patient's problem.</p> <p>Demonstrate an understanding of statistical methods such as confidence intervals, levels of significance (p values), and study power when interpreting results of clinical trials.</p>	BT/AT	CbD

Element	Learning Outcomes	Level	Assess
<i>Establish a working diagnosis and implement a management plan</i>	<p>Interpret and use clinical, investigational and resource information to refine clinical decision making and working diagnosis.</p> <p>Critically review and modify the working diagnosis if the patient's clinical course differs from that anticipated.</p>	BT/AT	CbD / FExam

Element	Learning Outcomes	Level	Assess
Treatment Management Plans			
<p><i>Discuss the condition with the patient and/or others as appropriate</i></p>	<p>Discuss with the patient in a clear and supportive manner;</p> <ul style="list-style-type: none"> • diagnosis; • pathogenesis; • likely course and prognosis; • treatment options including likely cost of each option; • potential adverse outcomes from treatment; • outcomes which may result from not undertaking treatment; • the long term implications of the condition and its treatment; • Provide, if available, written or web-based information, plus information regarding availability of support groups; <p>Identify the patient's preferred decision-making approach and act accordingly.</p> <p>Consider issues regarding the ability to access treatment, and the costs associated with the access to treatment, which may apply for patients from rural and remote communities.</p>	BT/AT	CbD
<p><i>Initiate treatment</i></p>	<p>Formulate a treatment plan, guided by patient preference, health system and patient constraints/resources, using the most appropriate options which may include#:</p> <ul style="list-style-type: none"> • general advice • topical therapies • systemic therapies • physical therapies • ancillary and other therapies <p>Select the most appropriate treatment option taking into account social circumstances, mobility and compliance, co-morbidities and fertility plan.</p> <p>Anticipate and avoid defined drug interactions, including any complementary medicines.</p> <p>Consider individual, cultural or religious beliefs that may impact negatively on patient's management.</p> <p>Advise patients and carers about important interactions and adverse drug effects.</p> <p>Prescribe appropriately in specific situations including pregnancy, breastfeeding, co-morbidities and/or change in physiological status.</p> <p>With the patient's consent communicate with referring</p>	BT/AT	CbD / FExam

Element	Learning Outcomes	Level	Assess
	doctor and relevant others.		
<i>Review the patient, if appropriate</i>	<p>Assess:</p> <ul style="list-style-type: none"> • subjective and objective patient progress • adverse effects of treatment • adherence to treatment plan • patient satisfaction with progress <p>Perform further investigations as indicated.</p> <p>Discuss results of any further investigations with patient.</p> <p>Recognise when a patient is not responding to treatment and consider why.</p> <p>Manage any complications associated with treatment.</p> <p>Adjust treatment where necessary.</p> <p>Provide further patient education, as required.</p> <p>Arrange referral to other professionals, as indicated.</p> <p>Arrange review in conjunction with Aboriginal health workers, nursing staff, case managers and/or interpreter, as appropriate.</p>	BT/AT	CbD / FExam
<i>Arrange ongoing care, if appropriate</i>	<p>Arrange timely further review of the patient, as indicated (see above).</p> <p>Appropriately communicate/liase with those involved in ongoing care of patient.</p>	BT	CbD / FExam
<i>Discharge patient from specialist care</i>	Discharge patient from specialist care and write letter to referring doctor outlining diagnosis and treatment management plan.	BT	CbD / FExam

refer to the Specialist Content Topic Areas within this section of the curriculum.

CLINICAL EXPERTISE:
Specialist Content
Topic Areas



The specialist content topic areas have been referred to in learning outcomes throughout the Fundamentals of Clinical Practice. These learning outcomes are marked with an asterisk (*), and reproduced below.

Element	Learning Outcomes	Level	Assess
<i>Specialist Content Topic Areas</i>	This section provides lists of diseases/disorders for which trainees will be able to:	BT/AT^	CEX/ FExam
	Describe the usual and unusual clinical features.		
	Identify typical, atypical and treatment modified different presentations.		
	Ask further questions, related to the history and examination of the patient, targeted to relevant aspects of the disease/disorder.		
	Develop accurate, relevant differential diagnoses based on information from history, physical examination and investigations.		CbD/ DP ProDA
	Perform specific clinical investigations for different presentations.		
	Describe and discuss the relevant histopathology and other relevant investigation results.		
	Formulate a treatment plan, guided by patient preference, health system and patient constraints/resources, using the most appropriate options which may include: <ul style="list-style-type: none"> • general advice • topical therapies • systemic therapies • physical therapies • ancillary and other therapies 		CbD/ FExam
	Arrange short, medium or long term follow-up, as indicated.		

^Depending on topic area, refer to list in next Table.

It is acknowledged that there is a continuing evolution of competency for the specialist content topic areas, which means that trainees will become more proficient as their training progresses. Also, that there will be some overlap, as the timing of some clinical experience is dependent upon the positioning in particular accredited training posts.

For topic areas listed as "BT", the trainee should be able to achieve the learning outcomes above, in relation to those topic areas, by the start of the 3rd year of training.

For topic areas listed as "AT", the trainee should be able to achieve the learning outcomes above, in relation to those topic areas, by the end of their training.

Element		Level
<i>Specialist Content Topic Areas List</i>	Eczema/Dermatitis Papulosquamous Exanthems and Drug Eruptions Urticaria, Erythema, Purpuras and Vasculitis Developmental Disorders (hamartoma) Emergency Dermatology Skin Neoplasms Infections Adnexal Diseases Pigmentary Disorders Infestations and Bites Autoimmune Connective Tissue Disease/Rheumatic Disease Disorders of Hair Disorders of Nails Disorders of Sweat Glands Oral and Anogenital Disease Vesiculobullous Disease Disorders due to Physical Agents	BT
	Lymphoproliferative and Myeloproliferative Disorders Non-Infectious Neutrophilic and Eosiniphilic Dermatoses Disorders of Langerhans Cells and Macrophages Disorders of Dermal Connective Tissue Disorders of Subcutaneous Fat Vascular and Lymphatic Disorders Genodermatoses Skin Signs in Patients with Systemic Disease Metabolic and Systemic Disorders Psychocutaneous Disease <i>Dermatoses of Specific Populations</i> Infants Pregnant Women The Elderly Aboriginal and Torres Strait Islander Peoples	AT

PLEASE NOTE: In each topic area there are some diseases/disorders marked with an asterisk (*). Trainees will be expected to have a detailed knowledge of these and such diseases/disorders should be the major emphasis of learning for trainees.

Trainees should have knowledge of all other conditions listed.

Basic Training Topic Areas



Eczema/Dermatitis

Eczema is an inflammatory process in which there are vesicles, papules and often significant itchiness.

Recognise and identify eczematous inflammation:

- Acute
 - vesicles, in severe cases bullae
 - erythema++, swelling
 - scale
 - itch++
 - burning

- Subacute
 - erythema
 - scale
 - ill-defined borders to lesion
 - itchiness - from none to severe

- Chronic
 - erythema
 - lesion becomes thickened and lichenified
 - variable scale, often thickened
 - excoriations may be present

Above appearances may be modified by:

- dryness
- rubbing
- scratching
- infection
- anatomical site(s)
 - hands
 - feet
 - lower legs associated with venous disease

Conditions in which eczematous inflammation is a significant component:

Atopic dermatitis*

Contact dermatitis*

- Irritant
- Allergic

Types of dermatitis

- Asteatatic eczema*
- Stasis dermatitis*
- Nummular eczema*
- Pityriasis alba*
- Juvenile plantar dermatosis*
- Lichen simplex chronicus*
- Prurigo nodularis* - (nodular form lichen simplex chronicus)
- Neurotic excoriations*
- Disseminated eczema and erythroderma*
- Patch stage cutaneous T-Cell lymphoma* (may need to be considered due to similarity of appearance and symptoms of dermatitis)

Papulosquamous

This group of disorders is linked only by fact that primary lesion is characterised by scaly papules and plaques.

Disorders presenting with scaly papules and plaques:

Psoriasis*

- plaque
- guttate
- pustular
- erythrodermic

Seborrheic dermatitis*

Pityriasis rosea*

Pityriasis rubra pilaris*

Pityriasis lichenoides*

- acute
- chronic

Parapsoriasis*

- small plaque
- large plaque

Cutaneous T-Cell lymphoma*

Lichenoid inflammation

Disorders with less scale, a greater papular or plaque component:

Lichen planus*

Lichen striatus*

Lichen nitidus*

Lichen sclerosus et atrophicus*

Graft-versus-host disease

Exanthems and Drug Eruptions

Exanthems

Exanthems (maculopapular eruptions) are characterised by acute onset, discrete or confluent macules and papules that do not initially form scale, usually in a widespread symmetric distribution. If the condition progresses petechiae, vesicles and/or pustules may be seen.

Associated systemic symptoms and time course of skin signs are helpful in differentiating exanthemata

Common causes of exanthems are:

- viruses
- bacteria
- drugs

Viral Exanthems

Measles*

Rubella*

Erythema infectiosum*

Roseola*

Enteroviruses*

- coxsackie
- echoviruses

Varicella*

Bacterial Exanthems

Scarlet fever*

Superantigen toxin mediated* (Staphylococcal Scalded Skin syndrome)

Toxic Shock syndrome*

Unknown Causative Agent (probably infective)

Kawasaki disease*

Drug Eruptions

Skin is one of most common targets for adverse reactions to drugs. Drug eruptions mimic many dermatoses, and may occur on an immunologic or non-immunologic basis (most common).

Cutaneous Patterns of Drug Eruptions

Most common:

Exanthematous/maculopapular*

Urticaria, angioedema*

Fixed drug eruptions*

Distribution in light-exposed areas

Serious, potentially life threatening:

Anaphylaxis*

Drug Reaction with Eosinophilia and Systemic Symptoms (DRESS syndrome)*

Stevens-Johnson syndrome/Toxic epidermal necrolysis spectrum*

Acute Generalised Exanthematous Pustulosis (AGEP)*

Other cutaneous patterns include:

Serum sickness*

Photosensitivity*

- Phototoxicity
- Photoallergy

Vasculitis and purpura*

Bullous eruptions*

- Linear IgA bullous dermatosis
- Drug-induced bullous pemphigoid
- Drug-induced pemphigus

Pseudolymphoma*

Papulosquamous eruptions*

Lichenoid eruption*

Anticoagulant-induced skin necrosis*

Erythema nodosum*

Drug-induced lupus*

Mucosal ulceration*

Drug-induced hair loss and hair growth*

Drug-induced nail changes*

Reactions to chemotherapy*

Drug-induced psoriasis*

Acneiform eruptions*

Pigmentary changes*

Eruptions induced by vaccines*

Localised reactions to injected medications*

Drug reactions in HIV infection*

Urticaria, Erythema, Purpura and Vasculitis

Urticaria

*Common urticaria**

- may be acute or chronic
- is characterised by raised weals of variable shape and size (no other primary lesions associated with inflammation)
- is pruritic
- has no fixed distribution
- disappears leaving normal skin in 24-36 hours

May be associated with angioedema - a swelling in the deeper dermal tissues, typically affecting lips, central face and genital areas. Resolves more slowly than the weals.

Physical urticarias defined by triggering stimulus

(physically induced weals usually resolve within 2 hours)

- cholinergic urticaria*
- cold urticaria*
- dermographism*
- aquagenic urticaria*
- delayed pressure urticaria*
- solar urticaria*
- exercise-induced anaphylaxis*
- vibratory angioedema*

Other skin conditions may present with skin swelling suggestive of urticaria and are differentiated on basis of:

- swelling lasts more than 36 hours
- distribution - often symmetrical
- other primary changes of skin inflammation also present (papules, vesicles, scaling crusts)
- post-inflammatory changes seen

Common skin diseases that may manifest urticarial lesions:

Contact dermatitis*

Insect and arthropod bites*

- Immediate reaction
- Hypersensitivity reaction - papular urticaria

Exanthematous drug eruption*

Urticarial dermatitis*

Polymorphous eruption of pregnancy* (pruritic urticarial papules and plaques of pregnancy)

Less common skin diseases that may manifest urticarial lesions

Mastocytosis (children)*

Autoimmune bullous disease*

- Bullous pemphigoid
- Gestational pemphigoid
- Herpes gestationis
- Linear IgA dermatosis
- Epidermolysis bullosa acquisita
- Dermatitis herpetiformis

Rare skin diseases that may manifest urticarial lesions

Autoimmune progesterone/oestrogen dermatitis

Interstitial granulomatous dermatitis

Eosinophilic cellulitis

Neutrophilic eccrine hidradenitis

Urticaria-like follicular mucinosis

Systemic diseases that can present with urticarial skin lesions

Vasculitides and immunologic disorders*

Urticarial vasculitis*

Systemic Lupus Erythematosus (SLE)*

Sjogren's syndrome

Dermatomyositis

Mixed Connective Tissue disease

Polyarteritis nodosa*

Juvenile Rheumatoid Arthritis*

Wegener's granulomatosis*

Churg-Strauss*

Haematologic disease*

Non-Hodgkins lymphoma (B-cell)*

- Cryoglobulinaemia
- Hypereosinophilic syndromes
- Polycythaemia vera

Rare entities that may be associated with urticaria

Neutrophilic urticarial dermatosis

Autoinflammatory syndromes

Other haematological diseases

Angioedema not associated with urticaria

Hereditary Angioedema*

Acquired C-1 esterase inhibitor deficiency

Idiopathic recurrent angioedema

Erythema

*Erythema multiforme**

- Acute, self limited, often recurrent disorder precipitated by infection, rarely drugs
- No systemic symptoms
- Acrofacial papular and target lesions, with occasional involvement of mucous membranes

Figurate erythemas

An ill-defined group of chronic, slightly raised, annular, arcuate or polycyclic, largely asymptomatic lesions which wax and wane in severity. They may be associated with infections, drugs, food allergies, underlying systemic diseases and neoplasia.

Erythema annulare centrifugum*

Erythema marginatum*

Erythema migrans

Erythema gyratum repens

Purpura

Purpura is a visible haemorrhage into skin or mucous membranes occurring as a primary phenomenon. Classification according to morphology assists defining underlying pathophysiology. It is helpful to attempt to differentiate microvascular occlusion from vasculitis pathophysiologically.

*Petechiae <3mm**

Trauma

Thrombocytopenias

Abnormal platelet function

Mechanical secondary to pressure changes in tissues

Perifollicular (Vitamin C deficiency)

Mild inflammation small vessels and capillaries

*Macular purpura 5-9mm**

Infection, inflammation in patients with thrombocytopenia

Hypergammaglobulinaemic purpura

Small-vessel vasculitis with minimal inflammation in dependent situation

*Ecchymoses >1cm**

Minor trauma*

- Procoagulant defect
 - anticoagulant use
 - hepatic insufficiency

- Poor dermal support of vessels
 - actinic (solar, senile) purpura
 - corticosteroid therapy - systemic or topical
 - Ehlers-Danlos
 - vitamin C deficiency
 - systemic amyloidosis
- Platelet dysfunction or deficiency
 - drug-induced
 - Von Willebrand
 - acquired or congenital thrombocytopenia

Palpable purpura

Immune complexes* deposition in vessels giving rise to leukocytoclastic vasculitis

- Drugs
- Infection
- Urticarial vasculitis
- Cryoglobulinaemia
- Vasculitis associated with autoimmune connective tissue disorders

Antineutrophil Cytoplasmic Antibodies (ANCA) associated*

- Wegener's granulomatosis
- Churg-Strauss
- Drug-induced p-ANCA
- Microscopic polyangiopathy

Not associated with leukocytoclastic vasculitis

- Erythema elevatum diutinum
- Erythema multiforme
- Pityriasis lichenoides et varioliformis acuta
- Pigmented purpuric eruption
- Hyperglobulinemic purpura of Waldenström
- Sweet's syndrome

Non-inflammatory retiform purpura* (livedo pattern + haemorrhage secondary to microvascular occlusion)

Medium sized vessels - differentiate from vasculitic syndromes

Livedoid vasculopathy

Embolisation or crystal deposition (cholesterol, fat)

Septic occlusion

Cold-related agglutination/cryoglobulinaemia

Platelet plugging syndromes

- Polycythaemia rubra vera

Vascular coagulopathies with cutaneous manifestations

- Antiphospholipid antibody/lupus anticoagulant syndrome
- Malignant atrophic vasculopathy
- Sneddon's syndrome

Sickle cell disease/haemolytic anaemias

Calciphylaxis

Proteins C & S disorders

Inflammatory retiform* (erythema + livedo pattern + haemorrhages secondary to microvascular occlusion)

Vasculitis

- IgA vasculitis (Henoch Schonlein Purpura)
- Rheumatic vasculitides (LE, RA)
- Polyarteritis nodosa
- Wegener's granulomatosis
- Churg-Strauss

Vessel inflammation/occlusion/constriction*

- Livedoid vasculopathy
- Septic vasculitis
- Chillblains

Vasculitis

Vasculitis is inflammation of the blood vessel wall. The changes in the skin reflect the size of the vessels involved and suggests how the vasculature of other organ systems may be affected

The morphology of the changes in the skin combined with histopathological findings is required to establish the diagnosis. Multiple biopsies may be required.

Cutaneous small-vessel vasculitis*

Clinically presents with macular or palpable purpura. Clinical signs may include urticarial papules, vesicles, bullae pustules, petechiae and erythema multiforme type lesions in dependent areas and under tight fitting clothing.

Immune complex deposition frequently underlies vasculitic manifestations. Aetiology not determined in about 50%. In the remainder:

- infections (15-20%)
- inflammatory - mainly autoimmune connective tissue disease (15-20%)
- drugs (10-15%)
- neoplasms (2-5%)

Named small-vessel vasculitic disorders include:

- Henoch Schonlein Purpura
- Urticarial vasculitis
- Erythema Elevatum diutinum
- Acute haemorrhagic oedema of childhood

Small and medium sized vessels*

Clinically, it usually presents with livedo reticularis, retiform purpura, ulcers, subcutaneous nodules and/or digital infarcts.

Cryoglobulinemia

ANCA associated vasculitides:

- Wegener's granulomatosis
- Churg-Strauss
- Microscopic polyangiitis

Predominantly medium sized vessels:

Polyarteritis nodosa

Kawasaki's disease

Large Vessel vasculitis

Temporal arteritis

Emergency Dermatology

The conditions listed below represent the acute skin eruptions often manifesting significant systemic problems that may cause people to present to the Emergency Department. The changes in the skin may assist in making an early diagnosis. However on some occasions, the changes in the skin may be insufficient on their own to establish a diagnosis. The trainees must therefore be aware of the importance of obtaining as detailed a history as possible from the patient and relatives plus evaluating carefully the patient's general state.

It should be noted that in some regions, a significant percentage of the patients presenting to the emergency department may do so due for socioeconomic reasons, thus presenting for diagnosis and management of a non-urgent dermatological condition

History

Assess level of consciousness - alertness, ability to respond (appropriately) to questions

Onset and time course of progression of present illness

Associated symptoms, malaise, myalgia, skin pain, laryngeal swelling, difficulty in breathing, wheeze, syncope

Other illnesses

System review

Drug history

Examine

Level of consciousness

Fever

Hypotension

Urine

Evaluate skin & mucous membrane changes

- Distribution - generalised or localised
- Evidence of swelling, tenderness, purpura, blistering
- Presence or absence of Nikolsky's sign

Investigate

As indicated by findings

More serious presentations include:

Anaphylaxis*

Drug Reaction with Eosinophilia and Systemic Symptoms (DRESS syndrome)*

Stevens-Johnson syndrome/toxic epidermal necrolysis spectrum*

Acute Generalised Exanthematous Pustulosis (AGEP)*

Acute erythroderma from multiple causes

Acute generalised pustular psoriasis

Kawasaki disease

Acute infections, for example varicella zoster virus, staphylococcal scalded skin, toxic shock eczema herpeticum

Vascular occlusion, incipient gangrene

Developmental Disorders (Haemartoma)

Epidermal Naevi*

- Verrucous epidermal naevus: epidermolytic and non-epidermolytic
- Sebaceous naevus
- Naevus comedonicus
- Eccrine and apocrine naevi
- ILVEN (inflammatory linear verrucous epidermal naevus)
- Epidermal naevus syndromes

Dermal melanocytosis*

- Mongolian spot
- Naevus of Ota, Naevus of Ito and related conditions
- Blue naevus and variants

Becker's naevus*

Dermal and subcutaneous naevi

Congenital melanocytic naevi*

Connective tissue naevi

Vascular Malformations and Vascular Tumours Presenting in Infancy

Haemangioma of Infancy (HOI)*

Congenital haemangiomas*

Vascular malformations*

Lymphatic malformations*

Rare vascular tumours eg. Kaposiform haemangioendothelioma, tufted angioma (including Kasaback-Merrit phenomenon)

Developmental disorders

Aplasia Cutis Congenita*

Cutaneous signs associated with underlying spinal dysraphism*

Developmental pits, cysts, sinuses and haemartomas*

Skin Neoplasms

Benign Neoplasms

Benign Epidermal Proliferations

Seborrheic keratosis*

Stucco keratosis*

Porokeratosis*

Cutaneous horn*

Lichenoid keratosis*

Clear Cell acanthoma*

Dermatosis Papulosa Nigra*

Acrokeratosis Verruciformis

Large Cell Acanthoma

Cysts

Epidermal* (infundibulum)

Trichilemmal* (pillar, isthmus catagen)

Steatocystoma multiplex*

Milium*

Benign Appendageal Tumours

Hair follicle

Sebaceous

Apocrine

Eccrine - syringomas*

Benign Melanocytic Neoplasms

Melanocytic naevi - acquired*

- Junctional
- Compound
- Dermal (Blue naevus)
- Spitz naevus
- Dysplastic naevus
- Desmoplastic naevus
- Naevus spilus (speckled lentiginous naevus)
- Halo naevus
- Acral, genital and flexural

Vascular Neoplasms and Neoplasm-like Proliferations

Benign Vascular Neoplasms and Reactive Hyperplasias*

- Pyogenic granuloma
- Cherry angioma

Perivascular neoplasms and neoplasm-like Proliferations

- Glomus tumours and glomuvenous malformations*
- Infantile Haemangiopericytoma

Neural and Neuroendocrine Neoplasms

Neuroma

Schwannoma

Neurofibroma*

Fibrous and Fibrohistiocytic Proliferations of the Skin and Tendons

Skin tag*

Cutaneous angiofibroma*

Dermatofibroma*

Infantile digital fibroma*

Muscle, Adipose and Cartilage Neoplasms

Tumours of smooth muscle

- Leiomyoma
- Smooth muscle haemartoma

Tumours of fat

- Lipoma*
- Angiolipoma

Tumours of cartilage

Sun induced changes in skin

The changes listed below are not of themselves neoplastic but are frequently seen in association with premalignant lesions, non-melanoma skin cancers and melanomas.

Acute:

Sunburn

Chronic:

Solar elastosis*

Atrophy*

Wrinkles*

Diffuse erythema*

Telangiectasia, venous lake*

Ecchymoses*

Pseudoscars*

Freckles*

Solar lentigo*
Guttate hypomelanosis*
Irregular pigmentation*
Poikiloderma of Civatte*
Naevi*
Seborrhoeic keratoses*
Comedones and cysts around the eyes*

Malignant Neoplasms

Premalignant Lesions

Actinic Keratosis*
Actinic Cheilitis*
Leukoplakia*
Cutaneous horn*
Porokeratosis*

Non-Melanoma Skin Cancer

Squamous Cell Carcinoma*

- Squamous cell carcinoma in situ
 - Bowen's disease
 - Arsenical keratosis
 - Bowenoid papulosis
 - Erythroplasia of Queyrat
 - Arsenical keratosis
- Invasive squamous cell carcinoma
- Keratoacanthoma
- Verrucous carcinoma

Basal Cell Carcinoma*

- Nodular basal cell carcinoma
- Superficial basal cell carcinoma
- Cystic basal cell carcinoma
- Morphoeic basal cell carcinoma
- Micronodular basal cell carcinoma
- Basosquamous carcinoma

Dermoscopy may be helpful to differentiate melanocytic lesions from non-melanocytic. Non-melanocytic includes:

- *Seborrhoeic keratosis*
- *Lichenoid keratosis*
- *Pigmented solar keratosis*
- *Haemangioma*
- *Haematoma*
- *Basal cell carcinoma*
- *Dermatofibroma*

Syndromes associated with Non-Melanoma Skin Cancers*

These are listed in other areas of the curriculum

Malignant Appendageal Tumours*

Melanoma

Primary melanomas of skin*

- Melanoma in situ/Lentigo maligna
- Superficial spreading melanoma
- Nodular melanoma
- Lentigo maligna melanoma
- Acral lentiginous melanoma

Other melanoma variants*

- Amelanotic melanomas
- Nevoid melanomas
- Malignant blue naevus
- Desmoplastic/spindled/neurotropic melanoma
- Ocular melanoma
- Mucosal melanoma

Vascular Neoplasms

Kaposi's sarcoma*

Angiosarcoma

Neural and Neuroendocrine Malignant Neoplasms

Merkel Cell Carcinoma*

Malignant Neoplasms of Muscle, Cartilage, Dermis and Soft Tissue

Liposarcoma*

Malignant fibrous histiocytoma*

Dermatofibrosarcoma protuberans*

Atypical fibroxanthoma*

Mammary and Entramammary Paget's disease*

Skin Malignancy in Immunosuppressed Individuals*

Cutaneous metastases*

Rare, occur in fewer than 10% patients with metastatic carcinoma

Infections

Bacterial diseases

Gram Positive

Staphylococcal and streptococcal skin infections*

- Impetigo*
- Bacterial folliculitis*
- Abscesses, furuncles and carbuncles*
- Erysipelas, cellulitis*
- Necrotising fasciitis*
- Toxin-related disorders*
 - Scarlet fever
 - Staphylococcal scalded skin syndrome
 - Staphylococcal and Streptococcal toxic shock syndromes*
- Localised infections - blistering distal dactylitis, streptococcal perianal disease, Streptococcal intertrigo*
- Pyomyositis
- Botryomycosis
- Bacteraemia/septicaemia*

Clostridial skin infections

- Anaerobic cellulitis*
- Myonecrosis (Gas Gangrene)*

Corynebacterium skin infections

- Erythrasma*
- Pitted keratolysis*
- Trichomycosis axillaris*

Other Gram-Positive Skin Infections

- Erysipeloid*

Gram Negative

Neisseria meningitidis

- Meningococemia*

Neisseria gonorrhoeae

- Gonococcaemia*

Pseudomonas aeruginosa

- Green nail syndrome*
- Pseudomonal pyoderma*
- Otitis externa*
- Pseudomonal folliculitis*
- Pseudomonas hot-foot syndrome*
- Ecthyma gangrenosum*

Bartonella

- Bartonellosis
- Cat Scratch disease
- Bacillary angiomatosis

Other Gram Negative Skin Infections

- *Vibrio parahaemolyticus*
- *Vibrio vulnificus**

Spirochaetes

Syphilis*

Borrelia burgdorferi

- Lyme disease*
- Borreliolymphocytoma
- Acrodermatitis chronica atrophicans

Non-venereal (endemic) treponematoses

- Yaws
- Pinta
- Endemic syphilis

Mycobacterial infections

Leprosy*

Cutaneous tuberculosis*

Atypical mycobacterioses*

Fungal diseases

Superficial mycoses*

- Non-inflammatory – pityriasis or tinea versicolor
- Dermatophytoses
- Candida infections
- Granuloma gluteale infantum
- Chronic mucocutaneous candidiasis

Subcutaneous mycoses*

- Sporotrichosis
- Cryptococcosis
- Chromoblastomycosis
- Mycetoma

Systemic mycoses

- True pathogens
 - Histoplasmosis
- Opportunistic pathogens

Viral diseases

Human papillomavirus infections*

Human herpesvirus infections (HHV)*

- HHV-1 & HHV-2 Herpes simplex
- HHV-3 Varicella zoster
- HHV-4 Epstein Barr virus
- HHV-5 Cytomegalovirus
- HHV-6 Exanthem subitum (Roseola, 6th Disease)
- HHV-7
- HHV-8

Enteroviruses* (coxsackie, echovirus)

Rubella*
Measles (rubeola)*
Erythema infectiosum*
Roseola infantum*
Infectious mononucleosis*
Cytomeglovirus infection*
Poxvirus infections - molluscum contagiosum*, Orf*
Kawasaki disease*
Human immunodeficiency virus*
Unilateral laterothoracic exanthem*
Gianotti-Crosti syndrome*
Viral haemorrhagic fevers, including Dengue
West Nile virus infection
Chikungunya fever
Rabies

Rickettsial diseases

Spotted fever and typhus group
Human ehrlichioses

Protozoa

Leishmaniasis*
Amoebiasis
Trypanosomiasis
Toxoplasmosis

Sexually Transmitted and Transmissible Infections

Viral

- HPV*
- Molluscum contagiosum*
- Herpes simplex virus - primary and secondary manifestations*
- Human immunodeficiency virus*
- Human herpes virus type 8 *

Bacterial

- Syphilis*
- Gonorrhoea*
- Chancroid
- Granuloma inguinale (Donovanosis)
- Lymphogranuloma venereum
- Chlamydia trachomatis

Protozoa

- *Trichomonas vaginalis*
- *Giardia*

Fungi

- Candidiasis

Ectoparasites

- *Sarcoptes scabiei*
- *Pthirus pubi*

Adnexal Diseases

Acne

A polymorphic disorder characterised by non-inflammatory lesions, closed and open comedones, plus inflammatory lesions papules, pustules, nodules and cysts.

Acne vulgaris *

Acne variants

- Acne conglobata*
- Acne fulminans*
- Acne excoriee*
- Solid facial oedema*
- Acne mechanica*
- Drug-induced acne*
- Occupational/Chloracne*
- Neonatal/infantile acne*
- Tropical acne
- Occipital acne (acne keloidalis nuchae)
- Acneiform eruptions occurring with endocrinedisorders/syndromes
 - Polycystic ovararian syndrome/ hyperandrogenism/HAIR--AN

Acneiform eruptions

- Radiation acne
- Apert syndrome

Folliculitis

Folliculitis is characterised by changes in the skin that appear to be centred on the hair follicle or pilosebaceous unit.

*Infective**

Bacterial

Viral

Fungal

Parasitic

Folliculitis in dermatological disease

Superficial folliculitis*

- Eosinophilic folliculitis
- Eosinophilic pustular folliculitis in infancy
- AIDS and immunosupprssion associated eosinophilic folliculitis

Deep folliculitis*

- Pseudofolliculitis barbae
- Acne keloidalis
- Hidradenitis suppurativa (follicular occlusion tetrad)

Disorders of follicular keratinization

- Keratosis pilaris*
- Keratosis pilaris atrophicans
- Lichen spinulosus
- Vitamin A deficiency (phrynoderma)

Mechanical*

Drug-induced*

Topical

Systemic

Rosacea

Rosacea is characterised by one or more of the following:

- Flushing
- Persistent erythema
- Telangiectasia
- Papules
- Pustules
- Centrofacial oedema

Secondary features may include:

- Dry skin
- Phymatous changes

Erythematotelangiectatic (vascular) rosacea *

Papulopastular (inflammatory) rosacea *

Phymatous rosacea *

Ocular rosacea* (50% patients)

- Conjunctivitis, conjunctival erythema
- Blepharitis
- Gritty sensation
- Itching & dryness

Granulomatous rosacea*

Pyoderma faciale (rosacea fulminans)*

Steroid rosacea*

Perioral and periocular (periorifical) dermatitis*

Pigmentary Disorders

The pigmentary disorders are a broad group of conditions demonstrating a clinically perceptible change in the colour of the skin that may be localised or widespread. These disorders are more visible and problematic in populations with greater natural pigment.

Disorders presenting with areas of reduced colour, hypopigmentation or leukoderma

Vitiligo*

- Localised - focal, segmental, or mucosal
- Generalised - widespread scattered patches
- Acrofacial
- Mixed
- Universal

Hereditary hypomelanosis

- Oculocutaneous albinism*
- Piebaldism*
- Waardenburg syndrome
- Tuberous sclerosis complex*

Linear lesions of hypomelanosis usually following Blaschko's line*

- Hypomelanosis of Ito
- Naevus depigmentosus
- Mosaicism
- Lichen striatus
- Epidermal naevus
- Incontinentia pigmenti

Other genetic syndromes associated with hypopigmentation

Post-inflammatory hypopigmentation*

- Eczematous inflammation
- Pityriasis alba
- Psoriasis and other papulosquamous inflammatory dermatoses,
- Cutaneous lupus erythematosus
- Scleroderma and lichen sclerosus
- Cutaneous T-Cell lymphoma
- Sarcoidosis
- Herpes zoster

Infectious and parasitic hypomelanosis

- Pityriasis versicolor*
- Leprosy*
- Pinta

Idiopathic guttate hypomelanosis*

Naevus anaemicus*

Halo naevus *

Drugs

- Systemic
- Topical

Hypomelanosis from chemical agents*

Hypomelanosis from physical agents*

Hyperpigmentation

Mostly a result of increased melanin production, but discolouration may also result from deposition of drugs or heavy metals in the dermis.

*Melasma**

*Post-inflammatory hyperpigmentation**

Pattern and distribution determined by preceding inflammatory process. May be linear or more diffuse. May occur secondary to:

Physical injury

Dermatitis

- Atopic
- Irritant
- Allergic
- Photocontact - Riehl's melanosis
- Photoallergic
- Photoaging - poikiloderma of Civatte

Papulosquamous dermatoses particularly Lichen planus and variants

Erythema dyschromicum perstans (Ashy dermatosis)

*Chemical and drug-induced hyperpigmentation**

Localised

- Tar melanosis/ochronosis - localised to site of application
- Fixed drug eruption

Generalised

- Minocycline, other tetracyclines
- Antimalarial agents
- Heavy metals
- Chemotherapeutic agents
- Phenothiazines
- Amiodarone
- Clofazimine

*Urticaria pigmentosa**

*Pityriasis versicolor**

Circumscribed pigmented lesions

- Ephelides
- Lentigo simplex - includes mucosal and acral melanotic lesions
- Solar lentiginos
- Congenital melanocytic naevi
- Acquired melanocytic naevi
- Café-au-lait macules
- Becker melanosis (naevus)
- Segmental lentiginosis

Dermal melanocytosis

- Naevus of Ota
- Naevus of Ito
- Hori's naevus (acquired bilateral naevus of Ota like pigmentation)
- Mongolian spot

Linear hyperpigmentation following Blaschko's lines*

Linear and whorled naevoid hypermelanosis

Incontinentia pigmenti

Early stages epidermal naevus

Reticulated hyperpigmentation

Most commonly associated with post-inflammatory changes of:

- Erythema ab igne*
- Livedo reticularis*
- Confluent and reticulated papillomatosis of Gougerot and Carteaud
- Rare genodermatoses

Generalised hyperpigmentation*

Haemochromatosis

MSH producing neoplasm

Addison's disease

Hyperthyroidism

Renal failure

Malnutrition or malabsorption

In combination with sclerodermoid changes - Progressive Systemic Sclerosis

Dyschromatoses*

Mixture of hyper- and hypo-pigmentation

Genodermatoses

Protein malnutrition (Kwashiorkor)

Pellagra

Chemical exposure

- Arsenic
- Diphencyprone
- Monobenzyl ether of hydroquinone
- Drugs

Infestations and Bites

Infestations

Scabies*

Head lice*

Crab lice*

Body lice*

Tungiasis

Cutaneous myiasis*

Bites and stings

Bee wasp and hornet stings

Fleas, mosquitoes, bed bugs

Cutaneous larva migrans*

Sandfly bites

Tick bites

Dog and cat bites

Spider bites

Papular urticaria*

Caterpillar stings

Acute reactions to stinging plants

Dermatitis associated with swimming

- Schistosome cercarial dermatitis (freshwater)
- Nematocyst dermatitis (sea bather's eruption)
- Jellyfish, bluebottle stings
- Coral reef granuloma

Worms (Helminths)

Cutaneous larva migrans*

Schistosomiasis and swimmer's itch*

Onchocerciasis

Filariasis

Cysticercosis and echinococcosis

Enterobius vermicularis

Autoimmune Connective Tissue Disease/Rheumatic diseases

Multisystem inflammatory disorders with skin involvement are regularly associated with auto-antibodies that are hypothesized to be involved in the pathogenesis of the clinical features, but are not always tissue specific. Pattern of onset, duration and organ involvement is variable. Overlap of clinical features may occur between the different categories of Autoimmune Connective Tissue Disease (AICD).

Lupus erythematosus*

- Acute cutaneous lupus erythematosus
- Subacute cutaneous lupus erythematosus
- Chronic lupus erythematosus
 - Discoid lupus erythematosus
 - Lupus panniculitis
 - Chilblain lupus
 - Tumid lupus
- Neonatal lupus

Dermatomyositis*

Systemic sclerosis *

- CREST syndrome

Other Rheumatologic Diseases

Extra-articular manifestations of rheumatoid arthritis

Sjogren's syndrome*

Mixed Connective Tissue Disease (MCTD)

Relapsing polychondritis

Juvenile idiopathic arthritis (Still's disease)

Adult-onset Still's disease

Interstitial granulomatous dermatitis (palisaded neutrophilic and granulomatous dermatitis)

Disorders of Hair

Hair Loss

Non-scarring - no clinical evidence of destruction of hair follicles or major inflammatory changes in scalp skin:

Male and female pattern hair loss*

Alopecia areata* - asymptomatic hair loss with normal appearing skin where the lesion occurs:

- patchy
- diffuse
- total body involvement

Telogen effluvium*

Anagen effluvium*

Trichotillomania*

Non-inflammatory tinea capitis*

Medication induced alopecia*

Pressure-induced alopecia*

Associated with systemic disease

- Systemic lupus erythematosus
- Iron deficiency
- Dermatomyositis
- Syphilis

Temporal triangular alopecia

Lipoedematous alopecia (lipoedematous scalp)

Cicatricial (scarring) alopecia - hair follicles are destroyed by process +/- obvious inflammation & scarring of scalp skin:

Erosive pustular dermatoses

Lichen planopilaris*

Chronic cutaneous lupus erythematosus*

Acne keloidalis*

Dissecting cellulitis of the Scalp*

Folliculitis decalvans*

Kerion/inflammatory tinea capitis*

Central centrifugal cicatricial alopecia*

Traction alopecia (end-stage)*

Cicatricial alopecias, not otherwise classified

Hair Shaft Abnormalities

Structural hair abnormalities Associated with Increased hair Fragility

- Bubble hair
- Monilethrix
- Pili torti
- Trichorhexis nodosa
- Trichorhexis invaginata

Structural hair abnormalities NOT Associated with Increased hair Fragility

- Loose anagen hair syndrome
- Pili Annulati
- Uncombable hair (spun glass hair)
- Woolly hair

Increased Hair Growth

Hypertrichosis*

Generalised hypertrichosis

Present at birth

- Maternal drug or alcohol intake
- Associated with developmental abnormalities
- Familial

Progressive development in early childhood

- Constitutional prepubertal hypertrichosis
Not associated with early pubarche and no evidence of androgen excess
- Congenital adrenal hyperplasia
- Androgen-producing tumours
Associated with early pubarche and evidence of androgen excess

Acquired

- Drugs
- Malnutrition
- Hypothyroidism
- Associated with systemic disease

Localised hypertrichosis

Haemartomas (may not manifest until later in life)

As part of a genodermatosis

Associated with repeated trauma, inflammation or friction at a particular site

Drug associated

Hirsutism*

Presence in women of terminal hairs in a male pattern.

Disorders of Nails

Look for appearance due to abnormal function in:

Proximal matrix

- Beau's lines
- Pitting
- Longitudinal ridging
- Longitudinal fissuring
- Trachyonychia

Proximal + distal matrix

- Nail shedding
- Nail thinning
- Koilonychia

Nail bed

- Onycholysis (may appear as leukonychia)
- Subungual hyperkeratosis
- Splinter haemorrhages

Nail colour

- Longitudinal melanonychia
- Hutchinson's sign
- Green nail syndrome

Congenital & hereditary nail diseases

Congenital malalignment of big toenails

Nail patella syndrome

Epidermolysis bullosa

Ectodermal dysplasias pachyonychia congenita

Darier disease

Environmental disorders

Brittle nails*

Chronic paronychia*

Idiopathic onycholysis*

Traumatic nail abnormalities

Ingrown toenail*

Subungual haematoma*

Traumatic onycholysis*

Median nail dystrophy (onychotillomania)*

Onychogryphosis*

Pincer nails*

Nail tumours

Benign*

- Fibromas
- Myxoid cysts*
- Subungual exostosis
- Glomus tumours*
- Onychomatricoma
- Melanocytic naevus*

Malignant*

- Bowen's disease
- Keratoacanthoma
- Squamous Cell Carcinoma
- Melanoma

Nail disorders in other dermatoses

Psoriasis*

Acrodermatitis continua*

Lichen planus*

Twenty nail Dystrophy*

Alopecia Areata*

Eczema*

Nail disorders in systemic disorders

Autoimmune Connective Tissue disorders*

Clubbing*

Yellow nail syndrome*

Drug-induced nail abnormalities*

HIV infection*

Infections

Acute Paronychia*

Warts*

Onychomycosis*

Disorders of Sweat Glands

Skin Effects from Excess Sweating

Maceration

Increased permeability of skin

Increased likelihood of bacterial, fungal or viral infection, with development of Bromhidrosis (malodour)

Conditions exacerbated by increased sweating:*

- Bromhidrosis
- Susceptability to development of contact dermatitis
- Miliaria
- Keratolysis Exfoliativa
- Juvenile Plantar dermatosis
- Transient Acantholytic dermatosis
- Hailey-Hailey disease

Hyperhidroses

*Primary**

Excessive sweating mainly on palms, soles and axillae unrelated to temperature

Secondary

Genodermatoses*

- Palmoplantar keratoderma
- Pachyonychia Congenita
- Congenital Ichthyosiform (Erythroderma bullous & non-bullous)
- Dyskeratosis Congenita
- Nail Patella syndrome
- Hereditary Sensory & autonomic neuropathies

Hypothalamic*

- Infection, febrile illnesses
- Malignancies
- Vasomotor
- Neurologic
- Drugs

Post-traumatic sensory/autonomic neuropathy

Gustatory (Medullary) hyperhidrosis

Spinal cord transection

Compensatory Hyperhidrosis

Hypohidroses

Genetic*

- Ectodermal Dysplasias
- Incontinentia Pigmenti
- Fabry disease

Destruction of Sweat Glands*

- Tumours
- Radiation & thermal burns
- Scleroderma & morphea
- Graft vs Host disease

Obstruction of Sweat Glands*

- Ichthyoses
- Psoriasis
- Eczematous dermatoses
- Bullous diseases
- Anhidrosis

Miliaria*

- Miliaria Crystallina
- Miliaria Rubra
- Miliaria Profunda

Drugs

Neutrophilic Eccrine Hidradenitis

Benign Tumours of Sweat Glands

- Syringomas

Fox-Fordyce disease

Oral and Anogenital Diseases

Oral disease

Fordyce granules*
Fissured tongue*
Hairy tongue*
Oral hairy leukoplakia*
Mucocoele*
Burning mouth syndrome*

Traumatic

Traumatic ulcers
Chronic cheek chewing

Inflammatory disorders

Contact stomatitis or cheilitis*
Labial melanotic macules*
Angular cheilitis*
Recurrent aphthous stomatitis*
Necrotising gingivitis*
Desquamative gingivitis*
Behcet's disease*

Vascular lesions

Benign venous lakes
Telangiectasia of hereditary haemorrhagic telangiectasia

Pre-neoplastic and neoplastic

Leukoplakia oral mucosa*
Actinic cheilitis*
Oral squamous cell carcinoma*
Verrucous carcinoma*
Melanoma*

Drug reactions

Stevens-Johnson syndrome/toxic epidermal necrolysis
Fixed drug eruption
Gingival hyperplasia
Chemotherapy-induced mucositis

Oral manifestations of dermatological disease

Lichen planus*
Pemphigus - vulgaris, vegetans*
Mucous membrane pemphigus*
Multiple lentiginoses of Peutz Jaegher's syndrome*
Multiple lentiginoses of other rare genodermatoses

Oral manifestations of systemic disease

Chronic mucocutaneous candidiasis*
Orofacial granulomatosis*
Wegener's granulomatosis
Sjogren's syndrome*
Amyloidosis
Pernicious anaemia
Crohn's disease*

Oral manifestations of haematologic/oncologic disease

Leukaemia
Lymphoma

Sexually transmitted and transmissible Infections – may be seen in either genital and oral locations

Viral

- Human Papilloma Virus (HPV)*
- Molluscum contagiosum*
- Herpes simplex virus - primary and secondary manifestations*
- Human Immunodeficiency Virus*
- Human herpes virus type 8*

Bacterial

- Syphilis*
- Gonorrhoea*
- Chancroid
- Granuloma inguinale (Donovanosis)
- Lymphogranuloma venereum
- Chlamydia trachomatis

Protozoa

- Trichomonas vaginalis
- Giardia

Fungi

- Candidiasis

Ectoparasites

- Sarcoptes scabiei
- Phthirus pubi

Anogenital (non-venereal) disease

The appearance of many dermatoses is modified by warmth, moisture, friction and the effects of body fluids. They may also be modified by secondary infection.

Infections

Bacterial*

Fungal*

Viral*

Parasitic worms

- Enterobius vermicularis
- Strongyloidiasis

Benign neoplasms

Pearly penile papules*

Epidermoid cysts*

Angiokeratomas*

Vestibular papillomatosis*

Fox Fordyce disease

Syringomas

Seborrhoeic keratoses*

Pre-malignant and malignant lesions

Intra-epithelial neoplasia of vulva, penis and anus*

Squamous Cell carcinoma*

Melanoma*

Extramammary Paget's disease*

Fixed drug eruption*

Zoon's balanitis

Plasma cell vulvitis

Dermatological disease manifesting in the anogenital region

Dermatitis*

- Endogenous
- Irritant contact (including pruritis ani)
- Allergic contact
- Napkin

Lichen sclerosus*

Lichen planus*

Psoriasis*

Inherited bullous disease*

- Hailey-Hailey disease

Acquired bullous disease*

- Bullous pemphigoid
- Cicatricial (benign mucous membrane) pemphigoid
- Gestational pemphigoid
- Linear IgA dermatosis
- Pemphigus vulgaris

Drug eruptions

- Fixed drug eruption

Genital Pain syndromes

Vulvodynia*

Scrotodynia* (burning scrotum syndrome)

Systemic diseases manifesting in the anogenital region

Erythema multiforme*

Stevens-Johnson syndrome/Toxic epidermal necrolysis*

Zinc and other vitamin deficiency*

Inflammatory bowel disease*

Histiocytosis

Glucagonoma

Behcet's disease

Vesiculobullous Diseases

*Autoimmune bullous disease**

Pemphigus*

- Pemphigus vulgaris
- Pemphigus vegetans
- Pemphigus foliaceus
- Pemphigus erythematous (Senear-Usher syndrome)
- Drug-induced pemphigus
- Paraneoplastic pemphigus
- IgA pemphigus

Pemphigoid group*

- Bullous pemphigoid
- Cicatricial pemphigoid
- Epidermolysis bullosa acqusstia
- Drug-induced pemphigoid

Dermatitis herpetiformis*

Linear IgA bullous dermatosis*

Hereditary bullous disease

Epidermolysis bullosa (EB)*

- EB simplex
- Junctional EB
- Dystrophic EB

Other conditions associated with blister formation

Friction blisters*

Bullous insect bite reactions*

Bullous drug eruptions* (particularly Stevens-Johnson syndrome/Toxic epidermal necrolysis and erythema multiforme)

Thermal and chemical injury*

Blistering associated with sunburn, phototherapy*

Edema blisters

Bullous diabeticorum

Coma blisters

Bullous small-vessel vasculitis

Delayed postburn/postgraft blisters

PUVA-Induced acrobullous dermatosis

Disorders due to Physical Agents

Normal cutaneous effects of UVR exposure

Acute and subacute effects

- Inflammation/erythema/epidermal hyperplasia/immunologic changes
- Pigment darkening and delayed tanning
- Vitamin D synthesis

Chronic effects

- Photoaging in people of Caucasian ethnicity
- Photoaging in patients with skin of colour
- Photocarcinogenesis

Photodermatoses

Abnormal cutaneous effects of UVR exposure

Idiopathic, probably immunologically-based, photodermatoses

- Polymorphous light eruption*
- Chronic actinic dermatitis*
- Solar urticaria
- Actinic prurigo
- Hydroa vacciniforme

Inherited disorders characterised by defective DNA repair

- Xeroderma pigmentosum*
- Cockayne syndrome
- Trichothiodystrophy

Inherited disorders characterised by chromosomal instability

- Bloom's syndrome
- Rothmund-Thomson syndrome

Kindler syndrome

Photoaggravated dermatoses*

Chemical and drug-induced photosensitivity*

- Drug-induced photosensitivity/phototoxicity
- Photocontact dermatitis

Porphyrias*

- Erythropoietic protoporphyria
- Porphyria cutanea tarda

Environmental Skin Disease

*Injury due to heat exposure**

Dependent oedema

Thermal burns and heat-related illness

Erythema Ab Inge

Burns associated with fluoroscopy and MRI

Airbag burns

Injury due to cold exposure*

Pernio

Frostbite

Cold-induced panniculitis

Injury due to water exposure*

Immersion foot (Trench foot)

Injury due to electricity*

Electrical burns

Chemical burns and exposures

Injury due to chemical exposure*

Chemical hair discoloration

Arsenical and heavy metal dermatoses

Sclerodermoid reactions

Eosinophilia myalgia syndrome

Injury due to pressure

Cupping

Socio-environmental skin disease

Signs of drug abuse*

Skin infections (superficial and deep) - bacterial, fungal, viral

Systemic infections - bacterial, viral, fungal

Granulomatous lesions

Ulcers

Drug reactions

Vascular

Track marks

Signs of child abuse*

Inexplicable bruising/bleeding

Signs of sexual abuse

Inexplicable burns

Exclude dermatological conditions that may cause similar physical findings.

Activity-related skin disease

Corns and calluses*

Black heel and palm

Chondrodermatitis nodularis helcis*

Acanthoma fissuratum

Weathering nodules of the ear

Traumatic auricular haematoma

Musical instrument-related dermatoses

- Frictional
- Contact dermatitis
- Acne mechanica
- Nail injuries

Sports-related dermatoses

Trauma

Infections

Contact dermatitis

Exacerbation existing dermatoses

Dermatoses associated with swimming

Schistosome cercarial dermatitis (freshwater)

Nematocyst dermatitis (sea bathers eruption)

Advanced Training Topic Areas



Lymphoproliferative and Myeloproliferative Disorders

Benign lymphocytic infiltrates*

Lymphocytic infiltrate of Jessner

Cutaneous lymphoid hyperplasia (Lymphocytoma cutis)

Cutaneous T-Cell Lymphoma

Distinct group of diseases in which neoplastic T-cells, derived from normal skin-homing T-cells, accumulate in the skin. Diagnosis is made based on information derived from clinical presentation, histology and immunophenotyping.

Indolent clinical behaviour

- Mycosis fungoides (MF) and variants*
- Folliculotropic MF*
- Pagetoid reticulosis
- Granulomatous slack skin
- Primary cutaneous CD30+ lymphoproliferative disorders*
- Lymphomatoid papulosis*
- Primary cutaneous anaplastic Large Cell lymphoma
- Subcutaneous panniculitis-like T-Cell lymphoma
- Extranodal NK/T-Cell lymphoma (nasal type)
- Primary cutaneous aggressive epidermotropic CD8+ Cytotoxic T-Cell lymphoma

Aggressive clinical behaviour

- Sezary syndrome*
- Cutaneous γ/δ T-Cell lymphoma
- Primary cutaneous CD4+ small/medium-sized pleomorphic T-Cell lymphoma
- Primary cutaneous peripheral T-Cell lymphoma, unspecified
- CD4+/CD56+ haematodermic neoplasm (Blastic NK-Cell lymphoma)
- Adult T-Cell leukemia/lymphoma

Primary cutaneous B-Cell Lymphomas

A group of lymphomas derived from B lymphocytes at various stages of differentiation. The primary site of involvement is the skin. They often demonstrate indolent behaviour. Diagnosis is made on basis of clinical, histopathology, immunophenotyping and molecular features.

Skin can be a site of secondary involvement of nodal B-cell lymphomas

Follicle centre lymphoma

Marginal zone B-Cell lymphoma

Diffuse large B-Cell lymphoma (leg type)

B-Cell lymphoblastic lymphoma

Extramedullary Haematopoiesis

Other Lymphoproliferative and Myeloproliferative Diseases

Malignant hematopoietic infiltrates

- Leukemia cutis
- Non B-Cell, Non T-Cell Lymphomas
 - Hodgkin's disease
 - Extranodal natural killer cell lymphoma
- Angioimmunoblastic lymphadenopathy
- Lymphomatoid granulomatosis

Mastocytosis*

Occurs in children and adults - differs in presentation and course, though most common in childhood.

Cutaneous disease

Childhood disease*

- Urticaria pigmentosa (common)
- Mastocytoma (rare)
- Diffuse cutaneous mastocytosis

Adult disease*

- Red-brown macules (common)
- Telangiectasia macularis eruptive perstans (rare)
- Diffuse cutaneous mastocytosis (rare)

Systemic mastocytosis

Non-infectious Neutrophilic and Eosinophilic Dermatoses

Non-infectious Neutrophilic Dermatoses

A group of dermatoses that may manifest in the skin as localized or widespread vesicopustules, plaques, nodule and ulcers. They are frequently associated with underlying internal diseases.

Histologically characterized by perivascular and diffuse neutrophilic infiltrates without identifiable infectious agent. The infiltrate may be most marked in epidermis, dermis or subcutaneous fat.

Neutrophilic infiltrate primarily epidermal

Pustular psoriasis*

Drug-induced Generalized Exanthematous Pustulosis (AGEP)*

Subcorneal pustular dermatosis*

Transient neonatal pustular melanosis*

Keratoderma blenorrhagicum

IgA pemphigus

Infantile acropustulosis*

Neutrophilic infiltrate primarily dermal

Sweet's syndrome*

Pyoderma gangrenosum*

Behcet's disease*

Small-vessel vasculitis*

Erythema elevatum diutinum*

Medium vessel vasculitis

Dermatitis herpetiformis

Linear IgA disease

Inflammatory bowel disease*

Neutrophilic eccrine hidradenitis

Neutrophilic urticaria

Still's disease

Erythema marginatum

Epidermolysis bullosa acquisita

Bowel-associated dermatosis-arthritis syndrome (Bowel bypass syndrome)*

Synovitis, Acne, Pustulosis, Hyperostosis and Osteitis (SAPHO) syndrome

Eosinophilic Dermatoses

Eosinophilic infiltrates often seen in:

- Insect bites
- Drug eruptions
- Autoimmune blistering disorders (particularly bullous pemphigoid)
- Atopic and nummular eczema
- Allergic contact dermatitis

Other discrete conditions in which increased eosinophils are seen:

Eosinophilic pustular folliculitis

AIDS and immunosuppression associated eosinophilic folliculitis

Eosinophilic pustular folliculitis of infancy

Granuloma faciale

Erythema toxicum neonatorum*

Wells syndrome

Hypereosinophilic syndrome

Eosinophilic fasciitis

Disorders of Langerhans Cells and Macrophages

Non-infectious granulomas

Sarcoidosis*

Granuloma annulare* - varied clinical presentations

- localised
- generalised
- micropapular
- nodular
- patch
- subcutaneous

Necrobiosis lipoidica*

Annular elastolytic giant cell granuloma (actinic granuloma)*

Cutaneous Crohn's disease*

Orofacial granulomatosis*

Foreign body reactions*

The most common cause of a foreign body granuloma is rupture of a cyst or follicle. Other causes include inflammatory reactions to inorganic and high molecular weight organic compounds introduced into the skin that are not readily degraded.

Reactions may present clinically in a number of ways:

- Erythema, induration, papules, nodules
- Sarcoid-like papules
- Pyogenic granuloma like
- Pseudofolliculitis, acne keloidalis nuchae
- Lichenoid papules and plaques
- Abscess
- Persistent subcutaneous nodules
- Photoallergic, eczematous reactions

Dermatofibroma

Histiocytoses

Langerhans Cell Histiocytosis*

Non-Langerhans Cell Histiocytoses

- Primarily cutaneous, usually self resolving
 - Juvenile xanthogranuloma*
 - Benign cephalic histiocytosis
 - Generalised eruptive histiocytoma
 - Indeterminate cell histiocytosis
- Frequent systemic involvement
 - Necrobiotic xanthogranuloma*
 - Reticulohistiocytosis
 - Sinus histiocytosis with massive lymphadenopathy
- Xanthoma disseminatum

Disorders of Dermal Connective Tissue

Morphoea and Lichen sclerosus*

Inflammatory diseases giving rise to scar formation, lichen sclerosus in the epidermis and superficial dermis, morphoea in the deeper dermis and subcutaneous tissues. There is no multisystem involvement.

Morphoea

- Guttate
- Plaque
- Linear , including en coup de sabre
- Generalised

Lichen sclerosus

- Genital
- Extra-genital

Perforating diseases*

Group of conditions manifest by papules or nodules with keratotic plugs in which there is transepidermal elimination of collagen, elastic tissue or connective tissue.

Primary perforating diseases:

- Perforating folliculitis
- Acquired perforating dermatosis and Kyrle's disease
- Elastosis perforans serpiginosa
- Reactive perforating collagenosis

As manifestation of other genodermatosis

Secondary perforating diseases - transepidermal elimination of:

- Endogenous substances
- Foreign material
- Infectious organisms
- Granulomas
- Neoplastic cells

Heritable disorders of extracellular matrices

Ehlers-Danlos syndrome*

Pseudoxanthoma elasticum*

Cutis laxa*

Marfan's syndrome

Epidermolysis bullosa* - heritable disorders with defects in collagen

- Junctional
- Dystrophic

Lipoid proteinosis

Dermal hypertrophies

Hypertrophic Scars and keloids*

Other dermal hypertrophies

- Dupuytren's contracture*
- Cutis verticis gyrata
- Juvenile hyaline fibromatosis and Infantile systemic hyalinosis

Atrophies of connective tissue

Striae*

Anetoderma*

Mid-dermal elastolysis*

Idiopathic atrophoderma of Pasini and Pierini*

Follicular atrophoderma

Atrophia maculosa varioliformis cutis

Piezogenic pedal papules

Other atrophies of connective tissue

Conditions presenting with widespread thickening and hardening of skin

Systemic sclerosis*

Generalised morphea*

Inflammatory syndromes

- Lipodermatosclerosis (chronic venous insufficiency)*
- Radiation-induced morphea
- Chronic Graft versus Host disease
- Eosinophilic fasciitis
- Silicone or paraffin Implants
- Porphyria cutanea tarda

Mucinoses

- Scleredema*
- Scleromyxedema*
- Myxoedema *

Paraneoplastic

- Systemic amyloidosis*
- Carcinoid syndrome

Drug or chemical induced

- Nephrogenic fibrosing dermopathy
- Eosinophilia myalgia syndrome
- Toxic oil syndrome
- Taxanes, Bleomycin
- Chlorinated hydrocarbons, vinyl chloride

Genetic disorders

Disorders of Subcutaneous Fat

Regardless of aetiology most forms of panniculitis present as tender, erythematous subcutaneous nodules or plaques. Establishing aetiology requires history, examination, deep biopsy as well as other investigations.

Management requires treatment of panniculitis plus treatment of underlying illness.

Panniculitis

Erythema nodosum*

- Subacute nodular migratory panniculitis (erythema nodosum migrans)

Erythema induratum* (nodular vasculitis)

Lipodermatosclerosis*

Morphoea/scleroderma panniculitis*

Traumatic panniculitis*

- Cold panniculitis
- Blunt trauma
- Injection exogenous oils, medications
- Post-irradiation

Alpha₁ - Antitrypsin deficiency panniculitis

Pancreatic panniculitis

Associated with auto-immune connective tissue disease

- Lupus erythematosus panniculitis*
- Panniculitis of dermatomyositis

Panniculitides in children

- Sclerema neonatorum
- Subcutaneous fat necrosis
- Post-steroid panniculitis

Direct infection-induced panniculitis

Cytophagic histiocytic panniculitis

Crystal deposition panniculitis - calcium, uric acid, oxalic acid

Malignant subcutaneous infiltrates

Lipodystrophies

A group of conditions, familial or acquired, characterised by generalised, partial or localised absence or significant reduction in fat +/- compensatory hypertrophy in unaffected areas.

Loss of fat may result in development of metabolic syndrome with insulin resistance, diabetes mellitus, hypertriglyceridaemia, cardiovascular disease. Other systemic associations are also seen.

Management requires addressing cosmetic concerns, metabolic disturbances and systemic associations

Congenital generalised lipodystrophy (Berardinelli-Seip syndrome)

Acquired generalised lipodystrophy (Lawrence syndrome)

Familial partial lipodystrophy

- Dunnigan variety
- Kobberling variety

Acquired partial lipodystrophy syndrome (Barraquer-Simons syndrome)

HIV/HAART related lipodystrophy*

Localised lipoatrophy may be secondary to:

- Trauma, including pressure
- Infection
- Panniculitis
- Injections
- Foreign body inflammatory reactions

Vascular and Lymphatic Disorders

Vascular tumours

Infantile haemangiomas* *and Infantile haemangiomatosis*

Commonest benign soft tissue tumour of infancy, characterised by early proliferation then gradual spontaneous involution. In certain anatomic sites, eg. face, neck and lumbosacral, areas may be associated with other malformations. Multiple lesions occur in 10-25%. These lesions may be confined to the skin or may involve other viscera.

Congenital haemangioma

- Rapidly involuting
- Non-involuting

Kasabach-Merritt syndrome

Pyogenic granuloma

Vascular malformations*

Vascular malformations are secondary to dysfunction in formation and growth of blood or lymphatic vessels. Classification is based on predominant anomalous channels, and flow characteristics, slow flow or fast flow. They may occur in any tissue, do not regress and worsen over time.

Capillary

Venous

Lymphatic

Arteriovenous

Combined

Also refer to Developmental Disorders

Leg ulcers*

Most common:

- Venous
- Arterial
- Neuropathic

In patients with diabetes all three factors may contribute to ulcer development

Traumatic

Other causes

Lymphoedema

- Primary
- Secondary

Infections

Pressure

Neoplasia

Vascular

- Vasculopathy
- Vasculitis
- Vaso-occlusive

Haematological

- Hypercoagulable states
- Thrombocytosis
- Sickle Cell disease

Dermatological disease

- Pyoderma gangrenosum
- Necrobiosis lipoidica
- Panniculitis
- Systemic sclerosis

Other vascular disorders

Livedo reticularis*

Flushing*

Erythromelalgia*

Telangiectasias*

- Spider telangiectasia
- Generalised essential telangiectasia
- Unilateral nevoid telangiectasia
- Angioma serpiginosum
- Hereditary haemorrhagic telangiectasia
- Ataxia - telangiectasia

Angiokeratomas*

Venous Lakes*

Naevus anaemicus*

Genodermatoses

Ichthyoses

Heterogeneous group of disorders of keratinisation. Usually present at birth or develop in neonatal period. Refsum's may have a delayed onset

Infants with lamellar ichthyosis or nonbullous congenital ichthyosiform erythroderma may present with a collodionmembtane at birth.

Characterized clinically by scaley skin.

Differentiated on basis of clinical presentation, associated features, histopathology, electron microscopy, molecular and biochemical abnormalities.

The conditions marked with an asterisk are seen more commonly and the other listed conditions are extremely rare.

Ichthyosis vulgaris*

X-linked recessive ichthyosis (Steroid Sulfatase Deficiency)*

Bullous congenital ichthyosiform erythroderma (Epidermolytic hyperkeratosis)*

Congenital ichthyosiform erythroderma* (Erythrodermic autosomal recessive lamellar ichthyosis, ichthyosis congenita type 1)

Lamellar ichthyosis (non-bullous congenital ichthyosiform erythroderma, Non-erythrodermic autosomal recessive lamellar ichthyosis, congenital type 2)*

Comel-Netherton syndromes (Netherton's syndrome)*

Sjogren-Larsson syndrome

Ichthyosis hystrix (verrucous epidermal naevi)

Harlequin ichthyosis

Ichthyosis bullosa of Siemens

Ichthyosis hystrix Curth-Macklin

Neutral lipid storage disease with ichthyosis

Trichothiodystrophy with ichthyosis

Refsum's disease

Multiple sulfatase deficiency

Rhizomelic chondrodysplasia punctata

Other ichthyosis

Erythrokeratodermas

Heterogeneous group usually present at birth.

Erythrokeratodermas demonstrate focal erythema and hyperkeratosis without scale.

Differentiated on basis of clinical presentation, associated features, histopathology, electron microscopy, molecular and biochemical abnormalities.

Erythrokeratoderma variabilis

Progressive Symmetric erythrokeratoderma

Erythrokeratoderma with ataxia

Keratitis-Ichthyosis-Deafness syndrome

Related disorders

- CHILD syndrome
- Conradi-Hunermann-Happle syndrome
- Peeling skin syndrome
- Erythrokeratolysis hiemalis

Hereditary Palmoplantar Keratodermas

Inheritance is autosomal dominant or recessive. Clinically involvement is diffuse, focal or punctate, may have an erythematous border and associated hyperhidrosis. Presence or absence of other clinical features helps to define, as does histopathology which establishes presence or absence of epidermolytic hyperkeratosis

Primary Immunodeficiencies

Heterogeneous group of inherited disorders characterized by a variety of immune system defects. Susceptibility to infections +/- manifestations of allergy, malignancy, and autoimmunity are seen clinically. Often have associated cutaneous abnormalities.

Ataxia-telangiectasia

Chronic mucocutaneous candidiasis

Cartilage-hair hypoplasia syndrome

Chediak-Higashi syndrome

Complement disorders

Chronic granulomatous disease

Common variable immunodeficiency

Di George syndrome

Hyperimmunoglobulin E syndrome

Immunoglobulin deficiencies

Leukocyte adhesion deficiency

Severe combined immunodeficiency

Wiskott-Aldrich syndrome

Neurofibromatoses

Neurofibromatosis 1*

Other neurofibromatosis subtypes

Darier disease*

Hailey-Hailey disease* (Familial benign chronic pemphigus)*

Tuberous sclerosis*

Mosaicism and Linear Lesions

Mosaicism describes individuals composed of cells of different genotype. The patterns of mosaicism often, but not always, follow Blaschko's lines. An understanding of the mechanisms of mosaicism is expected.

Mosaicism in X-linked conditions

- Incontinentia pigmenti*
- Goltz syndrome

Mosaicism for autosomal dominant conditions

- Epidermal naevus syndrome*
- Linear inflammatory disorders
- Chromosomal mosaicism
- Hypomelanosis of Ito*
- Chimeriism

Genodermatoses associated with tumorigenesis*

Neurofibromatosis
Tuberous sclerosis
Gorlin's syndrome
Multiple endocrine neoplasia
Cowden disease
Gardner syndrome
Muir-Torre syndrome
Birt-Hogg-Dubé syndrome
Xeroderma pigmentosum

Enzyme Deficiency Disease

Alkaptonuria
Biotinidase and holocarboxylase synthetase deficiencies
Fabry disease
Fucosidosis
Gaucher disease
Hartnup disease
Mitochondrial disorders
Niemann-Pick disease
Phenylketonuria*

Premature Aging Syndromes and Poikilodermas

Progeria (Hutchinson-Gilford) syndrome
Werner syndrome
Kindler syndrome
Bloom's syndrome
Rothmund-Thomson syndrome
Prolidase deficiency

Ectodermal Dysplasias

Genetic disorders resulting in structural or functional disorders in two or more of major structures derived from ectoderm (hair, nails, teeth, sweat glands mucous glands, sebaceous glands). Abnormalities in structures arising from other tissues often associated.

Presence or absence of sweating, what structures affected and mode of inheritance differentiates between disorders

Hypohidrotic ectodermal dysplasia*

Hidrotic ectodermal dysplasia*

Other rarer manifestations are recognized

Skin Signs in Patients with Systemic Disease

Many primarily systemic disorders may have skin manifestations. These should be noted in general examination. This is not an exhaustive list.

Trainees are not required to have a detailed knowledge of the diagnosis and management of these systemic diseases. If indicated, refer appropriately.

Many primarily cutaneous disorders may have systemic implications that need to be considered and evaluated. These conditions are not covered here.

Diabetes mellitus

- Acanthosis nigricans*
- Diabetic bullae
- Diabetic dermopathy
- Eruptive xanthomas
- Necrobiosis lipoidica
- Leg and foot ulcers due to diabetic neuropathy and vascular disease
- Scleredema

Thyroid disease

Hyperthyroidism

- Warm moist skin
- Pretibial myxoedema
- Thyroid acropachy and clubbing
- Mild diffuse alopecia/increased frequency alopecia areata

Hypothyroidism

- Dry, rough, cold skin and hair
- Increased length telogen growth phase
- Myxoedema

Adrenocortical disease

Cushing's syndrome

- Moon facies
- Dorsal cervical hump
- Reduced fat arms and legs
- Multiple striae
- Skin fragility, purpura with minor trauma, prolonged wound healing
- Hirsutism
- Acne

Addison's disease

- Diffuse hyperpigmentation
- Local hyperpigmentation
 - Sites' trauma
 - Palmar creases
 - Mucous membranes

Rheumatoid arthritis

- Rheumatoid nodules
- Neutrophilic and granulomatous dermatitis
- Capillaritis
- Small, medium and large vessel vasculitis
- Neutrophilic dermatoses
 - Pyoderma gangrenosum
 - Sweet's syndrome
 - Rheumatoid neutrophilic dermatosis

Inflammatory Bowel disease

- Erythema nodosum
- Medium and larger vessel vasculitis
- Pyoderma gangrenosum
- Sweet's syndrome
- Oral and vulval granulomatous disease
- Stomal granulomas
- Fistulae
- Erythema elevatum diutinum

Haemochromatosis

- Generalised hyperpigmentation
- Signs of other organ system dysfunction, eg. cardiac disease, diabetes

End stage renal disease

- Sallow, dry, skin
- Pruritus
- Acquired perforating collagenoses
- Calciophylaxis
- Pseudoporphyria

Hepatic disease

Cirrhosis

- Spider angiomas/telangiectasis
- Palmar erythema
- Gynecomastia
- Pruritus
- Jaundice
- Reduced secondary sexual hair

Primary biliary cirrhosis

- Jaundice
- Diffuse hyperpigmentation
- Pruritus
- Xanthoms, eruptive, planar

Paraneoplastic Dermatoses*

Dermatoses associated with neoplasia in almost all cases:

Bazex syndrome

Carcinoid syndrome

Erythema gyratum repens

Acquired hypertrichosis lanuginosa

Ectopic adrenocorticotrophic hormone (ACTH) syndrome

Glucagonoma syndrome

Paget's disease of the breast

Paraneoplastic pemphigus

POEMS syndrome (polyneuropathy, organomegaly, endocrinopathy, M-protein & skin changes)

Eruptive seborrhoeic keratoses
Necrobiotic xanthogranulomata
Scleromyxedema

Dermatoses strongly associated with cancer in some cases:

Acanthosis nigricans
Dematomyositis
Extramammary Paget's disease
Neutrophilic dermatoses
Acquired ichthyosis

Familial cancer syndromes with significant skin manifestations

Cowden disease
Muir Torre syndrome
Gardner syndrome
Birt-Hogg-Dubé syndrome
Dyskeratosis congenita
Naevoid Basal Cell Carcinoma (BCC) syndrome (Gorlin's syndrome)
Bloom's syndrome
Rothmund-Thomson syndrome
Xeroderma pigmentosum
Tuberous sclerosis
Neurofibromatosis
Bazex (acrokeratosis neoplastica)
Rombo

Metabolic and Systemic Disorders

*Xanthomas**

Xanthomas are associated with hyperlipidaemias. Xanthomas result from deposition of lipid in cells and in dermis.

- Eruptive
- Tuberous
- Tendinous
- Plane (includes xanthelasma)

Amyloidosis

Primary cutaneous amyloidosis*

- Macular amyloidosis
- Lichen amyloidosis
- Nodular amyloidosis

Secondary cutaneous amyloidosis (histologic epi-phenomenon)

Systemic amyloidosis*

- Primary - associated with underlying plasma cell dyscrasia
- Secondary - complication of severe chronic inflammatory disease

Calcifying and ossifying disorders

Cutaneous calcification

- Dystrophic
- Metastatic
- Idiopathic
- Iatrogenic

Cutaneous ossification

Porphyria

The result of dysfunction of enzymes involved in haem biosynthesis as a result of gene dysfunction. Can be divided into those manifesting cutaneous findings and those that do not.

Cutaneous

- Porphyria cutanea tarda*
- Erythropoietic protoporphyria
- Variegate porphyria*
- Hereditary coproporphyria
- Congenital erythropoietic orphyria
- Hepatoerythropoietic porphyria

Non-cutaneous

- Acute intermittent porphyria
- Aminolevulinic Acid (ALA) Dehydratase Deficiency Porphyria

Variegate and hereditary coproporphyria manifest acute neurologic attacks as well as cutaneous changes.

Mucinoses

A group of disorders (each different from the other) in which abnormal amounts of mucin accumulate in the skin. Aetiology and pathogenesis is unknown. In primary cutaneous mucinoses, mucin deposition leads to clinical features of condition and is the main histological finding. In secondary mucinoses, mucin deposition is an associated finding.

*Primary dermal mucinoses**

Scleromyxoedema

- Generalized
- Localized

Lichen Myxoedematosus

Papules, nodules or plaques of secondary mucin deposition in skin only. No associated systemic disorders.

Secondary Dermal mucinoses

Scleredema*

- Acute secondary to streptococcal infection - usually resolves without treatment
- Associated with monoclonal gammopathy
- Associated with Insulin-dependent diabetes mellitus

Myxoedema (mucinosis associated with abnormal thyroid function)*

- Generalized
- Localized

Follicular mucinosis

- Primary
- Secondary

Nutritional disease

Manifestations of nutritional disease including:

Protein/Energy Nutritional Deficiency

- Kwashiorkor oedema from hypoproteinaemia + cutaneous findings
- Marasmus <60% expected body weight, emaciation

Essential Fatty Acid Deficiency

Vitamin deficiencies*

- Fat soluble Vitamins A, D, E and K
- Water-soluble Vitamins B and C

Mineral deficiencies

- Zinc
- Copper
- Selenium

Nutritional excess

- Mechanical consequences
- Infective
- Exacerbation of pre-existing skin disease

Psychocutaneous Diseases

Abnormal dermatological beliefs*

- Delusional parasitosis
- Morgellon's disease

Body Dysmorphic disorder (Dysmorphophobia)*

Harmful cutaneous habits*

- Neurotic excoriations/neurodermatitis
- Acne excoriee
- Trichotillomania
- Onychotrichophagia (median nail dystrophy)

Factitious skin disease*

- Dermatitis artefacta

Dermatoses of Specific Populations

Infants

Neonatal vesiculopustular diseases

Bacterial infections*

- Staphylococcal
- Group A streptococcal
- Group B streptococcal
- *Listeria monocytogenes*
- *Haemophilus influenzae*
- *Pseudomonas*

Viral infections*

- Neonatal HSV
- Intrauterine HSV
- Neonatal varicella
- Herpes zoster

Fungal infections*

- Congenital candidiasis
- Neonatal candidiasis
- *Aspergillus* infection in premature infants

Scabies*

Non-infective (common)*

- Erythema toxicum neonatorum
- Transient neonatal pustular melanosis
- Miliaria - crystalline and rubra
- Neonatal cephalic pustulosis (neonatal acne)

Non-infective (uncommon & rare)

- Acropustulosis of infancy
- Eosinophilic pustular folliculitis
- Incontinentia pigmenti
- Hyperimmunoglobulin E syndrome
- Pustular psoriasis
- Congenital Langerhans cell histiocytosis

Neonatal Bullous, Erosive, Ulcerative Diseases

Bacterial infections*

- Staphylococcal scalded skin syndrome
- Group B streptococcal Infection
- *Pseudomonas aeruginosa*

Viral infections*

- Intrauterine herpes simplex infection
- Congenital varicella

Transient non-infective lesions*

- Sucking blisters
- Perinatal trauma, iatrogenic injury

Diseases that may be associated with bullous & erosive lesions (uncommon & rare)

Epidermolysis bullosa*

Mastocytosis*

Maternal autoimmune bullous disease

Bullous congenital ichthyosiform erythroderma*

Others

Neonatal conditions presenting with diffuse redness and erythroderma*

Seborrhoeic dermatitis

Atopic dermatitis

Psoriasis

Ichthyoses - collodion baby, x-linked ichthyosis, Netherton syndrome and harlequin ichthyosis

Immunodeficiencies

Panniculitis of the neonate

Subcutaneous fat necrosis of newborn

Sclerema

Poststeroid panniculitis

Cold panniculitis

Pregnant Women

Physiologic changes of pregnancy

Pigmentary changes*

- Hyperpigmentation (areolae, linea nigra)
- Melasma

Hirsutism*

- Postpartum telogen effluvium (can last up to 15 months)
- Postpartum patterned alopecia

Connective tissue

- Striae

Vascular* - most marked in third trimester, usually resolve following delivery*

- Spider angioma
- Palmar erythema
- Pyogenic granuloma
- Development of venous varicosities
- Non-pitting oedema of ankles

*Dermatoses of pregnancy**

Pemphigoid gestationis*

Polymorphous eruption of pregnancy (pruritic urticarial papules and plaques of pregnancy)*

Prurigo of pregnancy*

Cholestasis of pregnancy*

Autoimmune progesterone dermatitis*

The Elderly

Physiologic changes seen with chronological aging

Main function of skin is protection of the internal environment. The structure and functional capacity of the skin changes with age and is exacerbated by photoaging.

Age related physiologic changes in the skin include:

- Disturbed and diminished epidermal maturation and renewal rate, slow wound healing
- Diminished tensile strength dermis, reduced mechanical protection- skin fragility
- Impaired barrier function, changes in percutaneous absorption
- Thinning subcutaneous fat - impaired thermoregulation and protection, gaunt appearance
- Diminished immune defense against infection, self recognition and destruction neoplastic cells
- Reduced numbers and function some skin appendages - reduced sweating, impaired thermoregulation
- Reduced sensory perception leading to diminished awareness and/or reaction to noxious stimuli
- Reduced Vitamin D production

Exacerbated by:

*Photoaging of skin**

- Dryness
- Roughness
- Inelasticity and skin laxity
- Irregular pigmentation
 - freckling
 - lentigines
 - guttate hypomelanosis
- Persistent hyperpigmentation
- Wrinkling
 - fine surface lines
 - deep furrows
 - stellate pseudo scars
- Elastosis
- Comedones
- Vascular changes
 - Telangiectasia
 - Senile purpura
 - Venous lakes
- Sebaceous hyperplasia
- Reduction in skin attractiveness

Specific cutaneous disorders common to the elderly

Benign neoplasia

- seborrhoeic keratoses
- papulosis nigra

Premalignant change

- Actinic keratoses

Malignancy

- SCC
- BCC
- Melanomas
- Merkel cell tumour

Angiosarcoma

Pruritus

Xerosis

Dermatitis/Eczema

- Asteatotic eczema
- Stasis dermatitis
- Irritant dermatitis

Drug eruptions

Infection

- bacterial
- viral
- parasitic

Ulcers, particularly lower limb

Bullous pemphigoid

Disorders due to nutritional deficiencies, Zn deficiency, B 12 and folate deficiency

Aboriginal and Torres Strait Islander Peoples

Aboriginal and Torres Strait Islander peoples are afflicted by the same skin diseases and systemic diseases, which manifest in the skin as in the wider Australian population. However some diseases are more common, for example infectious diseases. Other conditions occur more rarely, for example, melanoma and porphyria cutanea tarda.

Systemic diseases that may manifest in the skin such as lupus erythematosus, renal failure, diabetes and vascular diseases can reduce the life expectancy of Aboriginal and Torres Strait Islander peoples.

More Aboriginal people live in urban areas than remote communities and the prevalence of skin diseases will vary depending on a person's social circumstances. Knowledge of the fundamentals of Aboriginal and Torres Strait Islander peoples' culture, views concerning health, ethics and racism, cultural biases and social disadvantage are essential. Social factors such as housing, education, employment and mobility will alter the prevalence of diseases and their management. In some communities language and communication are barriers to adequate medical care.

Some skin diseases are more difficult to treat due to significant medical co-morbidities including renal disease, liver disease, diabetes, hyperlipidaemia and lupus erythematosus.

Aboriginal people may attribute ill health to reasons that are unimaginable to us as western health professionals and unless these are addressed, compliance with treatment will be undermined. A thorough history will often reveal a history of self-treatments with bush medicines and other interesting facts. Eliciting such a history shows an interest and consideration by the health professional which may contribute to future compliance with more conventional medical strategies.

Skin diseases that are important because of possible systemic consequences, difficulty in diagnosis or management or cosmetic disability:

Lupus erythematosus*

Acanthosis nigricans* - insulin resistance and diabetes

Infectious diseases

Streptococcal pyoderma - rheumatic fever and glomerulonephritis*

Community-acquired methicillin resistant staphylococcus aureus*

Tinea*

HTLV-I

Deep fungal infections

Pityriasis versicolor*

Leprosy

Melioidosis

Infestations

Scabies*

Strongyloidiasis

Sexually transmitted infections

Syphilis

Donovanosis

Skin disorders in rural and remote Aboriginal and Torres Strait Islander communities

Cutis gyrata

Dermatosis papulosa nigra

Chewing tobacco mucositis

Focal epithelial hyperplasia

Residual ochre

Madarosis

Lateral malleolar bursitis

Sorry cuts

Keloids

Post-traumatic hyper- and de-pigmentation

Bush feet

Neuropathic ulcers

Kava dermopathy

Therapeutic guidelines for prevention of endocarditis

Rheumatic valvular heart disease in Indigenous Australians has been retained in the list of cardiac conditions for which antibiotic prophylaxis should be given.

Refer to the Fundamentals of Clinical Practice for learning outcomes related to the care of Aboriginal and Torres Strait Islander peoples. Specific learning outcomes can be found within the following elements:

Initial communication - *establish a therapeutic relationship with the patient and carers*

History and consent - *obtain informed consent*

Patient examination - *set up environment, prepare patient for examination*

Clinical decisions and diagnoses - *Develop and implement a relevant investigation plan to aid in arriving at a working diagnosis*

Treatment management plans - *initiate treatment and review the patient, if appropriate*

CLINICAL EXPERTISE: Procedural Dermatology



This module encapsulates the aspects of Procedural Dermatology which are critical to the safe and competent practice of Dermatology. Procedural Dermatology is included as a stand-alone module as virtually all dermatologists perform a substantial amount of procedural work on a regular basis in the course of their daily practice. in varying degrees,. Indeed, the modern specialty of dermatology is rightfully considered as both medical and surgical.

The Procedural Dermatology module, therefore, contains the basic procedural elements in which a trainee dermatologist must achieve competence. These include: general procedural considerations; minor and major surgical procedures; topical and intralesional therapies; electrosurgical and cryotherapy procedures; light therapies; laser treatments; radiotherapy; cosmetic procedures; and advanced surgical procedures.

Finally, though not specifically listed within the context of this module, the subject matter covered in the Fundamentals of Clinical Practice in Dermatology must be adopted and applied in this module. It will be assessed as an integral component of the overall assessment of competency in this module.

General Considerations

Element	Learning Outcomes	Level	Assess
<i>Patient selection and indications</i>	Choose the most appropriate procedure for the presentation.	BT	ProDA
<i>Identify absolute and relative contra-indications and at risk groups</i>	<p>Identify contraindications to anaesthetic agents, including:</p> <ul style="list-style-type: none"> • allergy to local anaesthetic agent • tachyarrhythmia to adrenaline • needle phobics • proneness to faint with needles • possible drug interactions <p>Identify contraindications to specific procedure planned.</p> <p>Target questioning to elicit information about:</p> <ul style="list-style-type: none"> • medications interfering with haemostasis • other medications and supplements • prosthetic heart valves, history of valvular disease • prosthetic joint within two years • cardiac devices • co-morbidities • allergies • infections - HIV, Hepatitis B or C, past history of infective endocarditis • other risk factors <p>Modify therapies and make appropriate plans to cater for patients with special risks.</p>		ProDA
<i>Document condition and procedure to be performed</i>	<p>Take appropriate photographs.</p> <p>For patients presenting with significant pathology, establish tracking system to ensure the appropriate procedure is performed.</p> <p>Follow up to ensure patients have been seen by the appropriate specialist if a referral has been made.</p>		ProDA
<i>Obtain and document informed consent</i>	Refer to listings in Fundamentals of Clinical Practice.		ProDA /CEX
<i>Prepare patient and procedural environment</i>	<p>Ensure area is set up with appropriate equipment and area is suitable for the procedure</p> <p>Follow Australian Guidelines for the prevention and control of infection in healthcare:</p> <p>Standard precautions</p> <ul style="list-style-type: none"> • hand hygiene • personal protective equipment • handling and disposal of sharps • routine environmental cleaning <p>Transmission-based precautions</p> <ul style="list-style-type: none"> • Contact precautions 		ProDA

Element	Learning Outcomes	Level	Assess
	<ul style="list-style-type: none"> • Droplet precautions • Airborne precautions <p>Multi-resistant Organisms (MRO's)</p> <p>Follow Australian/New Zealand standards for Laser Safety in Health Care when performing laser procedures.</p> <p>Ensure emergency equipment appropriate to the type of procedures is available and operational.</p> <p>Ensure operator and staff are up to date with current life support procedures.</p>		
<i>Administer local anaesthetic, if appropriate</i>	<p>Select a suitable anaesthetic agent (topical, direct infiltration, nerve block, tumescent), concentration and dose.</p> <p>Select a suitable adjuvant agent, if appropriate, such as adrenaline or sodium bicarbonate.</p> <p>Select delivery method to minimize pain of delivery.</p> <p>Consider patient, lesion and anatomical factors in choosing the above.</p> <p>Select the most appropriate site for anaesthesia.</p> <p>Mark out the anaesthesia site, if required.</p> <p>Apply appropriate aseptic technique.</p> <p>Deliver the anaesthetic in the appropriate manner. In particular, ensure delivery is performed in a way so as to minimize the pain experienced by the patient.</p> <p>Allow appropriate time for anaesthetic to take effect.</p> <p>Check that the anaesthetic has taken effect.</p> <p>Ensure accurate documentation.</p>		ProDA
<i>Manage after care and follow-up</i>	<p>Refer to listings in the <i>Fundamentals of Clinical Practice in Dermatology</i> Module.</p> <p>Provide verbal and/or written advice to the patient and/or carer with regard to appropriate aftercare.</p> <p>Provide emergency contact number, including after hours.</p> <p>Organise follow-up visit/phone call to communicate pathology, to remove sutures if applicable and to arrange any further treatment as indicated. Initiate specimen tracking and report review process if appropriate.</p> <p>Document treatment appropriately including post-treatment photographs, where indicated.</p>		ProDA / CbD

Biopsy

Element	Learning Outcomes	Level	Assess
<i>Patient selection and indications</i>	Select the most appropriate method of biopsy (punch, shave, excisional, incisional).	BT	ProDA /Portfolio
<i>Identify absolute and relative contra-indications and at risk groups</i>	Refer to General Considerations.		
<i>Document condition and procedure to be performed</i>	Refer to General Considerations.		
<i>Obtain and document informed consent</i>	Refer to General Considerations.		
<i>Prepare patient and procedural environment</i>	<p>Give full explanation regarding the biopsy procedure and the expected outcomes and the possible side effects including but not limited to:</p> <ul style="list-style-type: none"> • pain • bleeding • infection • scarring • inadequate and/or non-representative tissue sample (which may necessitate re-biopsy) • inconclusive pathologic diagnosis <p>Select the most appropriate site for biopsy (anatomical and within the lesion).</p> <p>Mark out the biopsy site.</p>		
<i>Administer local anaesthetic</i>	Refer to General Considerations.		
<i>Perform procedure</i>	<p>Perform the selected biopsy method:</p> <ul style="list-style-type: none"> • to the most appropriate size and depth for tissue diagnosis • considering underlying and adjacent important anatomical structures • handling tissue with care to avoid crush artefact • placing tissue in appropriate transport medium <p>Ensure accurate documentation and labelling.</p> <p>Achieve haemostasis by electro-surgical, chemical, suture, haemostatic dressings or wound closure.</p> <p>Ensure appropriate wound closure, if necessary, for punch, incision or excision biopsy.</p> <p>Apply wound dressing.</p>		
<i>Manage after care and follow-up</i>	Refer to General Considerations.		

Shave excision or saucerisation

Element	Learning Outcomes	Level	Assess
<i>Patient selection and indications</i>	Ensure the lesion is suitable for shave excision or saucerisation (tumour type, depth and anatomical site).	BT	Port- folio
<i>Identify absolute and relative contra-indications and at risk groups</i>	Refer to General Considerations.		
<i>Document condition and procedure to be performed</i>	Refer to General Considerations.		
<i>Obtain and document informed consent</i>	Refer to General Considerations.		
<i>Prepare patient and procedural environment</i>	<p>Give full explanation regarding this procedure and the expected outcomes and the possible side effects including but not limited to:</p> <ul style="list-style-type: none"> • pain • bleeding • infection • scarring • pigmentary change • incomplete removal and/or recurrence <p>Mark out the lesion and appropriate margin.</p>		
<i>Administer local anaesthetic</i>	Refer to General Considerations.		
<i>Perform Procedure</i>	<p>Perform the selected shave excision or saucerisation:</p> <ul style="list-style-type: none"> • to the most appropriate margin and depth • considering underlying and adjacent important anatomical structures • handling tissue with care to avoid crush artefact • placing tissue in appropriate transport medium <p>Ensure accurate documentation and labelling.</p> <p>Achieve haemostasis by electro-surgical, chemical or haemostatic dressings.</p> <p>Apply wound dressing.</p>		
<i>Manage after care and follow-up</i>	Refer to General Considerations		

Curettage

Element	Learning Outcomes	Level	Assess
<i>Patient selection and indications</i>	Ensure the lesion is suitable for curettage (tumour type, depth and anatomical site, patient expectation).	BT	ProDA
<i>Identify absolute and relative contra-indications and at risk groups</i>	Refer to General Considerations.		
<i>Document condition and procedure to be performed</i>	Refer to General Considerations.		
<i>Obtain and document informed consent</i>	Refer to General Considerations.		
<i>Prepare patient and procedural environment</i>	<p>Give full explanation regarding this procedure and the expected outcomes and the possible side effects including but not limited to:</p> <ul style="list-style-type: none"> • pain • bleeding • infection • scarring • pigmentary change • incomplete removal and/or recurrence <p>Mark out the lesion and appropriate margin. Apply appropriate aseptic technique. Administer appropriate anaesthesia.</p>		
<i>Administer local anaesthetic</i>	Refer to General Considerations.		
<i>Perform Procedure</i>	<p>Perform the selected curette method:</p> <ul style="list-style-type: none"> • to the selected margin and depth, using the appropriate number of cycles • considering underlying and adjacent important anatomical structures • placing tissue in appropriate transport medium <p>Ensure accurate documentation and labelling. Achieve appropriate and satisfactory haemostasis:</p> <ul style="list-style-type: none"> • for benign lesions, via electrocautery, chemical application or haemostatic dressings • for malignant lesions, electrocautery (typically), chemical applications or haemostatic dressings. <p>Apply wound dressing.</p>		
<i>Manage after care and follow-up</i>	Refer to General Considerations.		

Electrosurgery

Element	Learning Outcomes	Level	Assess
<i>Patient selection and indications</i>	Ensure the lesion is suitable for electrosurgery (tumour/lesion type, anatomical site and patient expectations).	AT	Port- folio
<i>Identify absolute and relative contra-indications and at risk groups</i>	Refer to General Considerations.		
<i>Document condition and procedure to be performed</i>	Refer to General Considerations.		
<i>Obtain and document informed consent</i>	Refer to General Considerations.		
<i>Prepare patient and procedural environment</i>	<p>Give full explanation regarding this procedure and the expected outcomes and the possible side effects including but not limited to:</p> <ul style="list-style-type: none"> • pain • bleeding • infection • scarring • pigmentary change • incomplete removal and/or recurrence <p>Based on lesion type and patient factors (eg. electronic device implants), select the appropriate electrosurgery device:</p> <ul style="list-style-type: none"> • electrocautery (hot cautery) • hyfrecator • unit with indifferent electrode eg. Surgistat • radio-frequency technique 		
<i>Administer local anaesthetic</i>	Avoid alcohol based antiseptic.		
<i>Perform Procedure</i>	<p>Perform the electrosurgery (electrodessication, electrofulguration, electrocoagulation, electrosection, electrocautery, radiofrequency ablation):</p> <ul style="list-style-type: none"> • to achieve selective tissue destruction • considering underlying and adjacent important anatomical structures <p>Apply wound dressing, if required.</p>		
<i>Manage after care and follow-up</i>	Refer to General Considerations.		

Excisional Surgery

Element	Learning Outcomes	Level	Assess
<i>Patient selection and indications</i>	Ensure lesion is appropriate for surgical excision (tumour type, anatomical site, patient expectations)	BT / AT	ProDA /Port- folio
<i>Identify absolute and relative contra-indications and at risk groups</i>	Refer to General Considerations.		
<i>Document condition and procedure to be performed</i>	Refer to General Considerations.		
<i>Obtain and document informed consent</i>	Refer to General Considerations.		
<i>Prepare patient and procedural environment</i>	<p>Give full explanation regarding the proposed surgical excision and reconstruction and the expected outcomes and possible side effects including but not limited to:</p> <ul style="list-style-type: none"> • pain • swelling • bruising • bleeding • haematoma • infection • wound dehiscence • nerve damage (motor or sensory) which may be temporary or permanent • scarring, including hypertrophic/keloid scarring • failure of flap or graft • loss of function • suture reactions • incomplete clearance and/or recurrence of tumour • in special sites - webbing, ectopion, asymmetry and microstomia <p>Mark out the lesion and appropriate margin.</p>		
<i>Administer local anaesthetic</i>	Refer to General Considerations.		
<i>Perform Procedure</i>	<p>Perform the selected excision method:</p> <ul style="list-style-type: none"> • to the most appropriate margin and depth • considering underlying and adjacent important anatomical structures • handling tissue with care to avoid crush artefact • placing tissue in appropriate transport medium • orientate excision specimen <p>Ensure accurate documentation and labelling.</p>		

Element	Learning Outcomes	Level	Assess
	<p>Achieve haemostasis by electrosurgery, surgical tie or topical agents in special circumstances.</p> <p>Select appropriate method for wound closure:</p> <ul style="list-style-type: none"> • primary closure: single layer, multi-layer, sub cuticular • flap repair: advancement, rotation, transposition, pedicle(subcutaneous or myocutaneous) • graft: split thickness or full thickness • secondary intention in appropriate sites <p>Select appropriate material:</p> <ul style="list-style-type: none"> • sutures • tapes • staples <p>Perform closure, ideally to create a wound with everted edges and NOT under too much tension.</p> <p>Select and apply appropriate wound dressing</p>		
<i>Manage after care and follow-up</i>	<p>Instruct patient how to care for wound.</p> <p>Arrange for review of wound and removal of sutures if required.</p>		

Cryotherapy

Element	Learning Outcomes	Level	Assess
<i>Patient selection and indications</i>	Ensure the lesion is suitable for cryotherapy. Consider lesion and patient factors. Perform a biopsy if necessary to confirm the lesion is suitable for cryotherapy	BT	ProDA
<i>Identify absolute and relative contra-indications and at risk groups</i>	Refer to General Considerations.		
<i>Document condition and procedure to be performed</i>	Refer to General Considerations.		
<i>Obtain and document informed consent</i>	Refer to General Considerations.		
<i>Prepare patient and procedural environment</i>	Give full explanation regarding cryotherapy and the expected outcomes and the possible side effects including but not limited to: <ul style="list-style-type: none"> • pain • swelling • blistering • pigmentary change, especially hypo-pigmentation (which may be permanent) • infection • scarring • recurrence • numbness if damage to underlying nerves Mark out the lesion and appropriate margin. Select appropriate freeze method (eg. open or closed spray technique), freeze time and number of freeze cycles.		
<i>Administer local anaesthetic, if appropriate</i>	Refer to General Considerations.		
<i>Perform Procedure</i>	Perform the selected cryotherapy technique.		
<i>Manage after care and follow-up</i>	Refer to General Considerations.		

Phototherapy

Element	Learning Outcomes	Level	Assess
<i>Patient selection and indications</i>	<p>Choose the most appropriate mode of phototherapy for the clinical presentation.</p> <p>Discuss merits and disadvantages of various phototherapy options.</p> <p>Be aware that there is a wide range of conditions treated by phototherapy.</p>	AT	ProDA
<i>Identify absolute and relative contra-indications and at risk groups</i>	<p>Establish skin phototype or minimal perceptible erythema (MPE).</p> <p>Consider causes of abnormal sensitivity to ultraviolet light(UVL):</p> <ul style="list-style-type: none"> • metabolic eg. porphyria • genetic eg. xeroderma pigmentosum • autoimmune disorders eg. SLE • drugs <p>Establish compliance factors:</p> <ul style="list-style-type: none"> • claustrophobic • age - too young, too old • commitment for regular attendance for course of therapy • ability to stand/mobility <p>Establish personal and family skin cancer history and do a baseline full skin check.</p> <p>Establish past ultraviolet light exposure history:</p> <ul style="list-style-type: none"> • attendance at solarium • past phototherapy experience • work ultraviolet exposure • leisure UVL exposure • blistering burns <p>Establish history of immunosuppression.</p> <p>Identify ocular conditions that may be aggravated by UVL.</p>		
<i>Document condition and procedure to be performed</i>	<p>Document condition and take photographs where indicated and useful - especially vitiligo.</p> <p>Provide adequate verbal and/or written information about the phototherapy - list adverse effects.</p> <p>Give opportunity to ask questions.</p> <p>Communicate with referring practitioner, ophthalmologist about proposed plan of treatment.</p>		
<i>Obtain and document informed consent</i>	Refer to General Considerations.		
<i>Prepare patient</i>	Choose dose schedule appropriate to skin type or MPE.		

Element	Learning Outcomes	Level	Assess
<i>and procedural environment</i>	<p>Demonstrate to patient and guardian the procedure to be followed.</p> <p>Perform minimal erythema/phototoxic dose test where indicated.</p> <p>Document dose schedule - preferably on a standard chart.</p> <p>Prepare patient for the required skin exposure and protection to ensure consistency of treatments.</p> <p>Ensure appropriate eye protection.</p> <p>Demonstrate safety features of machine:</p> <ul style="list-style-type: none"> • door opening • off switches • supplementary timers • alarms <p>Demonstrate other protective measures:</p> <ul style="list-style-type: none"> • protective eyewear • protective face masks/areas not to be exposed • discuss clothing to be worn during treatment, especially underwear • use appropriate sun screens post treatment 		
<i>Perform Procedure</i>	<p>Confirm correct phototherapy equipment and modality is selected.</p> <p>Ensure correct calibration of machine.</p> <p>Determine dose to be delivered.</p> <p>Set up machine to deliver required dose.</p> <p>Activate equipment to deliver treatment.</p> <p>Ensure adequate supervision of patient during procedure.</p> <p>Confirm equipment switch off and administration of correct dose.</p> <p>Document each treatment administered, dose and by whom.</p>		
<i>Manage after care and follow-up</i>	<p>Provide verbal and/or written advice with regard to aftercare:</p> <ul style="list-style-type: none"> • protective glasses • protection of skin <p>Provide emergency contact number if adverse effects experienced.</p> <p>Check for early signs of phototoxicity - ask before each treatment whether itch or erythema is experienced post treatment.</p>		

Element	Learning Outcomes	Level	Assess
	Undertake intermittent review in high accumulated exposure patients with particular emphasis on both the acute and chronic adverse effects of phototherapy.		
<i>Equipment Maintenance</i>	<p>Ensure installation and maintenance is undertaken by supplier only.</p> <p>Follow manufacturer's maintenance recommendations and report and repair any faults with equipment as soon as possible.</p> <p>Ensure output is checked by supplier intermittently.</p>		

Pulsed Dye Laser

Element	Learning Outcomes	Level	Assess
<i>Patient selection and indications</i>	Ensure vascular lesion is laser responsive.	AT	ProDA
<i>Identify absolute and relative contra-indications and at risk groups</i>	Inability to co-operate with treatment or laser safety precautions; may need general anaesthesia, especially if a child. Skin types 4 or greater. Proneness to form keloid scars.		
<i>Document condition and procedure to be performed</i>	Discuss treatment options with patient. Consider lesion and patient factors. Give full explanation to the patient regarding laser procedures and expected outcomes and possible side effects including but not limited to: <ul style="list-style-type: none"> • pain • swelling • blistering • purpura • pigmentary change • infection • scarring • incomplete clearance and/ or recurrence <p><i>Expected outcomes</i></p> <p>Need for multiple treatment sessions, spaced at regular intervals and these are likely to occur over months to years and with uncertain final outcome.</p> <p>Give special attention to laser safety manoeuvres including protection of patient and staff with correct safety eyewear or eyeshields.</p> <p>Prepare method of skin cooling where appropriate.</p> <p>Demarcate the area to be treated.</p> <p>Choose the appropriate spot overlap if any.</p> <p>Consider performing limited test patch first, especially on large lesions and skin types > 4.</p> <p>Set and calibrate laser.</p> <p>Check treatment parameter protocols and patient's previous treatment parameters.</p> <p>Select the most appropriate laser parameters for the condition to be treated, including, wavelength if tunable, fluence and spot size.</p>		
<i>Obtain and document informed consent</i>	Refer to General Considerations.		
<i>Prepare patient and procedural</i>	Ensure the lesion is suitable for laser.		

Element	Learning Outcomes	Level	Assess
<i>environment</i>			
<i>Administer local anaesthetic, if appropriate</i>	Refer to General Considerations.		
<i>Perform Procedure</i>	<p>Re-check laser safety measures, including eye protection and environment, and laser parameters immediately prior to first laser pulse.</p> <p>Warn patient of imminent first pulse.</p> <p>Perform initial test pulse.</p> <p>Assess for end point and patient tolerance of discomfort.</p> <p>Proceed with laser treatment, continually monitoring end-point and patient discomfort, adjusting parameters as necessary.</p> <p>Ensure accurate documentation of treatment.</p>		
<i>Manage after care and follow-up</i>	Initiate appropriate aftercare, which may include skin cooling, emollient creams or ointments, dressings, and photoprotection		

Other Laser and Light Procedures

Element	Learning Outcomes	Level	Assess
<i>Tattoo Lasers</i>	<p>Explain the nature and the associated indications, contraindications, limitations and potential complications and expected outcomes of tattoo lasers.</p> <p>Observe Q-switched Nd-YAG/alexandrite laser treatment of tattoos.</p>	AT	Port- folio FExam
<i>Pigment Lesion Lasers</i>	<p>Explain the nature and the associated indications, contraindications, limitations and potential complications and expected outcomes of pigment lesion lasers.</p> <p>Observe Q-switched NdYAG/ruby/alexandrite laser treatment of tattoos.</p>		
<i>Ablative Lasers</i>	<p>Explain the nature and the associated indications, contraindications, limitations and potential complications and expected outcomes of ablative lasers.</p> <p>Observe CO₂/erbium laser used for laser skin resurfacing, including vermillionectomy, rhinophyma, and for destruction of superficial benign tumours.</p>		
<i>Hair Removal Lasers</i>	<p>Explain the nature and the associated indications, contraindications, limitations and potential complications and expected outcomes of hair removal lasers.</p> <p>Observe diode/long pulse infrared laser treatment of excess body hair.</p>		
<i>Other Vascular Lasers</i>	<p>Explain the nature and the associated indications, contraindications, limitations and potential complications and expected outcomes of other vascular lasers.</p> <p>Observe any of the alternative non-pulsed dye vascular lasers in the treatment of port wine stains (PWS) and other benign vascular lesions.</p>		
<i>Intense pulsed light (IPL)</i>	<p>Explain the nature and the associated indications, contraindications, limitations and potential complications and expected outcomes of intense pulsed light.</p> <p>Observe, if possible, IPL used in the treatment of vascular and pigmented lesions, for purposes of photorejuvenation and for hair removal.</p>		

Other Dermatological Procedures

Element	Learning Outcomes	Level	Assess
<i>Photodynamic therapy (PDT)</i>	<p>Ensure the lesion is suitable for PDT.</p> <p>Perform a biopsy prior to PDT where neoplastic lesions are suspected.</p> <p>Consider lesion and patient factors.</p> <p>Give full explanation to the patient regarding PDT and the expected outcomes and possible side effects including but not limited to:</p> <ul style="list-style-type: none"> • pain • swelling • blistering • pigmentary change • infection • scarring • incomplete clearance and/or recurrence <p>Mark out the lesion and appropriate margin.</p> <p>Apply the cream in the appropriate manner.</p> <p>Ensure site is covered with opaque dressing.</p> <p>Have the patient return for treatment after a minimum of three hours.</p> <p>Illuminate the lesion for the appropriate period of time providing support, pain relief and advice to the patient during the illumination.</p>	BT	ProDA
<i>Intralesional treatments</i>	<p>Ensure the lesion is suitable for intralesional therapy.</p> <p>Perform a biopsy if necessary to confirm the lesion is suitable for intralesional therapy.</p> <p>Consider lesion and patient factors.</p> <p>Select appropriate intralesional treatments from the following:</p> <ul style="list-style-type: none"> • intralesional corticosteroids • intralesional bleomycin • intralesional chemotherapy (eg. 5 fluorouracil, methotrexate) • intralesional hyaluronidase <p>Give full explanation to the patient regarding intralesional therapy and the expected outcomes, including need for multiple treatments, and possible side effects including but not limited to:</p> <ul style="list-style-type: none"> • pain • swelling • infection • scarring • incomplete clearance and/or recurrence • atrophy • telangiectasia • necrosis 	BT	ProDA

Element	Learning Outcomes	Level	Assess
	<ul style="list-style-type: none"> • nerve damage • systemic symptoms/toxicity <p>Perform the injection in the appropriate manner using an aseptic technique.</p> <p>Provide anaesthesia if required.</p>		
<i>Topical chemotherapy or immunotherapy</i>	<p>Ensure the lesion is suitable for topical chemotherapy or immunotherapy.</p> <p>Perform a biopsy if necessary to confirm the lesion is suitable.</p> <p>Consider lesion and patient factors.</p> <p>Select appropriate topical chemotherapy or immunotherapy including but not limited to 5-fluoruracil, imiquimod or diphenyl cyprone.</p> <p>Give full explanation to the patient regarding topical chemotherapy or immunotherapy and the expected outcomes and possible side effects including but not limited to:</p> <ul style="list-style-type: none"> • pain • swelling • weeping • blistering • infection • scarring • recurrence • atrophy • telangiectasia • necrosis • systemic symptoms/toxicity • pigmentary change • persistent erythema • photosensitivity 	AT	Port- folio
<i>Radiotherapy</i>	<p>Ensure the lesion is suitable for radiotherapy.</p> <p>Perform a biopsy to confirm the lesion is suitable.</p> <p>Consider lesion and patient factors.</p> <p>Advise on the appropriate form(s) of radiotherapy and where necessary liaise with a radiotherapy service.</p> <p>Provide a full explanation to the patient of radiotherapy and the expected outcomes and possible acute and long term adverse effects.</p> <p>Observe the radiotherapy of skin malignancies.</p>	AT	Port- folio

Cosmetic Procedures

Element	Learning Outcomes	Level	Assess
<i>Injectable filler procedures including autologous fat transfer</i>	<p>Explain indications and contraindications, risks, benefits, complications, techniques, and expected outcomes of fillers.</p> <p>Describe and discuss major types of fillers and their uses.</p> <p>Observe, if possible, hyaluronic acid injections.</p>	AT	Port- folio/ FExam
<i>Injectable muscle relaxants</i>	<p>Explain indications and contraindications, risks, benefits, complications, techniques, and expected outcomes of injectable muscle relaxants.</p> <p>Explain the different injectable muscle relaxants and their uses.</p> <p>Observe, if possible, injections of botulinum toxin.</p>		
<i>Chemical peels</i>	<p>Explain indications and contraindications, risks, benefits, complications, techniques, and expected outcomes of chemical peels.</p> <p>Describe and discuss different chemical peeling agents and techniques.</p> <p>Observe, if possible, application of trichloroacetic acid solution.</p>		
<i>Scar revision procedures</i>	<p>Explain indications and contraindications, risks, benefits, complications, techniques, and expected outcomes of scar revision procedures.</p> <p>Describe and discuss different surgical and laser techniques for scar revision.</p> <p>Observe, if possible, ablative laser scar revision and Z-plasty used for surgical scar revision.</p>		
<i>Sclerotherapy</i>	<p>Explain indications and contraindications, risks, benefits, complications, techniques, and expected outcomes of sclerotherapy.</p> <p>Describe and discuss different surgical and laser techniques as an alternative treatment with sclerotherapy and the possible need for pre-treatment investigations.</p> <p>Observe, if possible, sclerotherapy for spider, reticular and small localised varicose veins.</p>		

Advanced Surgical Procedures

Element	Learning Outcomes	Level	Assess
<i>Mohs Surgery</i>	<p>Understand the nature and the associated indications, contraindications, advantages and disadvantages, expected outcomes, alternative treatment options and potential complications and of Mohs Surgery.</p> <p>Observe and/or perform under supervision Mohs Surgery.</p>	AT	Port- folio / FExam
<i>Complex Flaps</i>	<p>Understand the nature and the associated indications, contraindications, advantages and disadvantages, alternative treatment options and potential complications and expected outcomes of complex flaps.</p> <p>Observe and if possible, assist with complex flaps, such as combinations of flaps, internal hinge flaps and 2-stage interpolation flaps.</p>		
<i>Wedge Resection of Ear and Lip</i>	<p>Understand the nature and the associated indications, contraindications, advantages and disadvantages, alternative treatment options and potential complications and expected outcomes of a wedge resection.</p> <p>Observe, and if possible assist with or perform under supervision, a wedge resection of an ear and lip.</p>		
<i>Composite Grafts</i>	<p>Understand the nature and the associated indications, contraindications, advantages and disadvantages, alternative treatment options and potential complications and expected outcomes of composite grafts.</p> <p>Observe, and if possible assist with, composite skin-cartilage grafts.</p>		

PROFESSIONAL QUALITIES



Communication



Communication

Practitioners can only provide their patients with high quality care through the establishment of an effective relationship with both the patient and those involved in the patient's care including their families, and other health care professionals. These skills are essential for effective and successful practice.

Element	Learning Outcomes	Level	Assess
Communicate with Patient, and Family/or Carers	Exhibit the following qualities/skills in communication with all parties concerned: <ul style="list-style-type: none"> • understanding • trust • respect • empathy • confidentiality • ability to use spoken/written plain English effectively • awareness of cultural/linguistic differences 	BT	SITA MSF
	Demonstrate respect for the patient's rights in all aspects of communication. <ul style="list-style-type: none"> • obtain consent from the patient to share information with significant others • manage alternative and conflicting views from significant others • where appropriate, negotiate with parents/guardians to facilitate the wishes of younger patients • facilitate communication where appropriate, between young persons and their parents/guardians with regard to difficult issues pertaining to various aspects of consultation, treatment and management • respect patients who withdraw consent • understand and manage issues arising from dissatisfied families or carers 	BT	SITA / MSF
	Identify and manage communication barriers with patients who have: <ul style="list-style-type: none"> • a physical or mental impairment • poor literacy or numeracy skills • a non-English speaking background <p>Support a patient in distress especially when breaking bad news.</p> <p>Appreciate the psychological impact of chronic illness.</p> <p>Manage own emotional reactions in various situations to promote effective communication.</p>	AT	SITA/ MSF
Communicate with Referring Doctor	Communicate effectively with referring doctors and specialists to facilitate efficient referral and clinical handover. <ul style="list-style-type: none"> • Explain referral to patient • Establish rapport with referring doctors 	AT	SITA/ MSF

Element	Learning Outcomes	Level	Assess
	<ul style="list-style-type: none"> Interpret information within a referral letter and recognise the need for enhancement or clarification Write a timely letter containing a clear opinion to the referring doctor 		
Communicate with Colleagues and the Broader Health care Team (as appropriate)	<p>Communicate effectively within colleagues in other disciplines, nurses, administration staff and other health care providers, when appropriate.</p> <ul style="list-style-type: none"> Communicate clinical reasoning and intended clinical actions via case notes, letters, discharge summaries and oral case presentations as appropriate Communicate clear verbal instruction and/or concise written instruction to other staff members Identify and mediate differences between health care workers, patients and carers Ensure prompt involvement of other medical disciplines and health care professionals, as appropriate, to achieve patient management goals and enhance patient outcomes 	AT	SITA / MSF
	<p>Teams</p> <p>Explain the role of the team in health care management, including:</p> <ul style="list-style-type: none"> skill set and contribution of team members components of effective teamwork barriers to effective teamwork <p>Manages barriers to effective communication within teams.</p>	AT	SITA / MSF
	<p>For a hospitalised patient prioritise and communicate acute medical problems and disease severity to colleagues and nursing staff for:</p> <ul style="list-style-type: none"> end of shift handovers outpatient transfers inter-hospital transfers transfers between specialists <p>Co-ordinate medical aspects of care with other professionals.</p> <p>Write clear and concise discharge plans in a timely manner.</p> <p>Keep patients and significant others informed of the discharge plan, as appropriate.</p>	AT	SITA/ MSF
	<p>Communicates effectively with health administration and other health professionals where necessary:</p> <ul style="list-style-type: none"> health managers policy makers government funding and administration bodies 	AT	SITA/ MSF

Element	Learning Outcomes	Level	Assess
	where appropriate		
<i>Communicate with the Broader Community</i>	<p>Communicates effectively with community based organisations when and where appropriate.</p> <p>Facilitate communication, on behalf of the patient with:</p> <ul style="list-style-type: none"> • support bodies • administrative bodies • government departments • others in the wider community <p>Manage communication with media.</p> <p>Contribute to continuing education of patient support and community groups.</p>	AT	SITA/ MSF
	<p>Applies specific medico-legal communications practices when and where appropriate. Source information and prepare specific documentation, providing an objective and considered opinion.</p> <ul style="list-style-type: none"> • letter of support on behalf of a patient • police statement • expert opinion report • giving evidence in court 	AT	FExam

Quality and Safety



Quality and Safety

Quality and safety guidelines are developed to ensure that patients receive safe, high quality care. The implementation of these standards is the responsibility of all health care workers. Practitioners must consider quality and safety in every aspect of their practice, from interactions (communication) with patients, to managing and reporting risks and hazards.

Element	Learning Outcomes	Level	Assess
<i>Use evidence and information to guide quality improvement</i>	<p>Understand and apply quality improvement methodology and the quality improvement cycle.</p> <p>Identify sources of information regarding harm caused by healthcare.</p>	BT	FExam
<i>Optimise safe work practice, which minimises error</i>	<p>Minimising errors</p> <p>Distinguish between individual and system errors.</p> <p>Describe information and technology tools available for preventing errors.</p> <p>Follow verification procedures to ensure the correct patient receives the right treatment at the right time.</p> <p>Involve staff and patients in checking the identity of patients using or about to receive a service or treatment.</p>	BT	FExam SITA /MSF
<i>Prescribe and administer medication safely</i>	<p>Medication errors</p> <p>Describe approaches to minimise medication errors.</p> <p>Identify where and when errors are most likely to occur.</p> <p>Take steps to reduce the occurrence of medication errors. Provide written instructions for patients when appropriate.</p> <p>Outline where information about adverse effects can be found.</p>	BT	Pharm Exam/ FExam SITA/ MSF
	<p>Prescribing</p> <p>Demonstrates the ability to:</p> <ul style="list-style-type: none"> • prescribe and administer medications safely • educate patients about their medications • accurately calculate all drug doses • identify relative and absolute contraindications • report all medication errors (prescribing, dispensing, administering) and near misses • write clearly and legibly <p>Use information technology to support prescribing, dispensing and administering medications.</p>	BT	Pharm Exam/ FExam SITA/ MSF

Element	Learning Outcomes	Level	Assess
	<p>Implement principles of safety with long term drug therapy.</p> <p>Outline the legal and regulatory frameworks around prescribing as they apply to everyday clinical practice.</p>		
<i>Promote safe continuity of care for patients</i>	<p>Ensure continuity of care for patients:</p> <ul style="list-style-type: none"> • in hospital - ensure handover at end of shift • in community - ensure referring doctor and/or community nursing staff or staff in aged care facilities are promptly and effectively informed of management plan 	BT	FExam SITA/ / MSF
<i>Recognise, report on and manage adverse events and error.</i>	<p>Define an incident, adverse event, near miss and sentinel event.</p> <p>Identify the many factors that contribute to adverse events, including psychological precursors of error, and implement strategies aimed at reducing these factors.</p> <p>Recognise and manage personal errors.</p> <p>Report appropriately on adverse events, care errors and system failures.</p> <p>Be aware of the legal aspects of investigation and disclosure of adverse events.</p> <p>Outline the principles of open disclosure.</p>	BT	FExam
	<p>Analyse incident reports, adverse events and near misses to identify opportunities for improvements in patient care.</p> <p>Recognise the learning opportunities from reporting errors.</p> <p>Appropriately manage the patient's and staff needs where they are involved in an adverse event.</p>	AT	
<i>Risk management/ minimisation procedures</i>	<p>Identify and discuss the risks and hazards associated with the use of various investigations.</p> <p>Identify and report hazards and risks in the workplace.</p> <p>Work effectively with the designated officer responsible for occupational health and safety.</p>	BT	FExam
	<p>Use information from complaints, incident reports, litigation, Coroner's reports and quality improvement reports, and risk assessment to control risks.</p> <p>Establish and implement specific activities that will reduce adverse events and risk such as improved</p>	AT	

Element	Learning Outcomes	Level	Assess
	supervision, triage and protocols (eg. hand washing, infection control, confidentiality).		
<i>Manage patient complaints and use them to enhance medical care.</i>	<p>Explain how complaints can improve services.</p> <p>Describe the components of an effective complaint-management system.</p> <p>Appraise the complaint management policy for your workplace.</p> <p>Refer complaints raising significant health and safety issues to the appropriate body.</p> <p>Actively seek feedback from patients and carers about their health provision.</p>	BT	FExam

Cultural Competency



Cultural Competency

Practitioners have a responsibility to manage their own development of cultural competency and familiarise themselves with differing cultures within the community. Practitioners must endeavour to become acquainted with the cultural aspects of family, and cultural attitudes toward death and illness held by their patients. They should display commitment to gaining an understanding of the impact of culture on health outcomes and behaviours.

Element	Learning Outcomes	Level	Assess
<i>Manage one's own cultural competency development</i>	<p>Be aware of one's own cultural biases and the influence they may have on interaction with others.</p> <p>Ensure appropriate referral of the patient when personal beliefs or biases impact upon professional behaviour.</p> <p>Define the key concepts and terms in cultural competence.</p> <p>Explain the importance of being culturally sensitive to enhance patient care.</p> <p>Describe the sequelae of cultural insensitivity.</p> <p>Understand the potential barriers to effective cross cultural care.</p>	BT	FExam
<i>Understand how the unique history and culture of Aboriginal and Torres Strait Islander peoples impacts on the current health and other disparities.</i>	<p>Identify issues that have impacted on the spiritual, cultural, social, psychological and physical wellbeing of Aboriginal and Torres Strait Islander peoples (for example, loss of land and language; cultural practices; stolen generations).</p> <p>Describe elements of Aboriginal and Torres Strait Islander culture that may impact on interactions between Aboriginal and Torres Strait Islander peoples and health services (for example, perceptions of hospitals in relation to death and cultural respect, family and community obligations and responsibilities).</p> <p>Access and use information about Aboriginal and Torres Strait Islander peoples and their histories as the context for understanding culture and health interactions.</p>	BT	FExam SITA/ MSF
<i>Apply specific knowledge of patients' cultural and religious background, values/attitudes and beliefs in managing and treating patients</i>	<p>Outline some health inequalities among indigenous and culturally and linguistically diverse communities.</p> <p>Identify and describe the cultural demographics of the community in which you practice.</p>	BT	FExam
	<p>Use information relating to:</p> <ul style="list-style-type: none"> • family • diet • beliefs 	AT	SITA/ MSF

Element	Learning Outcomes	Level	Assess
<i>and families</i>	<ul style="list-style-type: none"> • health practices • patient expectations • customs • migration history in the management, treatment and care of the patient <p>Access and use information about indigenous and culturally and linguistically diverse communities, their histories, and specific health issues, to support health interactions.</p>		
<i>Communicate effectively with people from ethnically, culturally and linguistically diverse backgrounds</i>	<p>Explain the legal and ethical issues around using children and relatives as interpreters.</p> <p>Access and use resources available to support cross-cultural practice (interpreters, translated resources, community partners including aboriginal community controlled health services and aboriginal health workers).</p> <p>Develop partnerships with appropriate individuals, organizations and representative networks and seek information and advice when working with other cultural groups.</p> <p>Also refer to Communication Module.</p>	BT	FExam SITA/ / MSF

Leadership and Management



Leadership and Management

Practitioners interact with their learning environment as individuals, as members of teams or groups, and as participants in the health system locally, regionally or nationally. Practitioners must have the ability to manage and make systematic decisions about the allocation of personal, professional and organisational resources.

Element	Learning Outcomes	Level	Assess
<i>Implement and model effective self-management practices</i>	<p>Incorporate health maintenance as part of professional life including regular contact with own GP.</p> <p>Identify stressors and take action to minimise their effects.</p> <p>Balance personal and professional priorities to ensure personal health and a sustainable practice.</p> <p>Manage professional obligations and demonstrate initiative, reliability and dependability.</p> <p>Recognise limitations of expertise and consult with colleagues as appropriate.</p> <p>Recognise when other staff are under stress and not performing as expected and provide support for them; and take action as necessary to ensure that patient safety is not compromised.</p>	BT	SITA/ MSF
<i>Provide leadership and effectively manage others</i>	<p>Outline the principles and practices of effective leadership and team management.</p> <p>Effectively manage staff by:</p> <ul style="list-style-type: none"> • demonstrating leadership • communicating effectively • prioritising tasks • delegating • ensuring tasks are progressing as planned • coaching and mentoring as appropriate <p>Conduct staff appraisal in accordance with workplace policies and processes.</p> <p>Participate in 360 degree feedback as part of the appraisal process.</p> <p>Be willing to act as a leader, mentor, educator and role model.</p> <p>Provide constructive, appropriate and helpful feedback to staff.</p>	AT	MSF/ FExam
<i>Allocate finite healthcare resources</i>	<p>Recognise the importance of just allocation of healthcare resources, balancing effectiveness, efficiency and access with optimal patient care.</p> <p>Apply evidence and management processes for cost-</p>	AT	SITA MSF/ FExam

Element	Learning Outcomes	Level	Assess
	appropriate care.		
<i>Serve in administration and leadership roles, as appropriate</i>	<p>Chair or participate effectively in committees and meetings.</p> <p>Lead or implement change in healthcare.</p> <p>Plan relevant elements of health care delivery (eg. work schedules).</p>	AT	SITA/ MSF

Health Advocacy



Health Advocacy

Practitioners have an obligation, both as individuals and in their profession, to positively influence the health circumstances of a patient. They may need to add their voice where a patient is vulnerable due to infirmity, age or commonly stigmatized status (eg. race, social class or habit). Practitioners will proactively identify, and collaboratively address broad health issues and determinants of health that impact upon the health and well being of their patients and the broader community.

Element	Learning Outcomes	Level	Assess
<i>Respond to individual patient health needs and issues as a part of patient care</i>	<p>Identify the health needs of an individual patient.</p> <p>Identify opportunities for advocacy, health promotion and disease prevention with individuals to whom they provide care.</p> <p>Recognise factors that influence an individual to change their behaviour.</p>	BT	SITA/ MSF
<i>Respond to the health needs of the communities that they serve</i>	<p>Be aware of the practice communities that they serve.</p> <p>Identify opportunities for advocacy, health promotion and disease prevention in communities, and respond appropriately.</p> <p>Appreciate the possibility of competing interests between communities served and other populations.</p>	BT	SITA/ MSF/F Exam
<i>Identify the determinants of health for the population that they serve</i>	<p>Identify the socio-economic, environmental, behavioural, biomedical and genetic determinants of health of the populations, including barriers to access to care and resources.</p> <p>Identify vulnerable or marginalised populations within those served and respond appropriately.</p>	BT	FExam
<i>Promote the health of individual patients, communities and populations</i>	<p>Use homes, educational settings, workplaces and communities as settings that actively promote healthy lifestyles.</p> <p>Encourage awareness of importance of early detection of cutaneous malignancies in "at risk" populations.</p> <p>Demonstrates the ability to:</p> <ul style="list-style-type: none"> • advocate for a change in legal requirements • work with the media • undertake political lobbying • gain the necessary support to effect change • identify barriers and ways to overcome them • advocate for appropriate health resource allocation <p>Describe how public policy impacts upon the health of the populations served.</p>	AT	SITA/ MSF/F Exam

Element	Learning Outcomes	Level	Assess
	<p>Identify points of influence in the healthcare system and its structure.</p> <p>Work collaboratively with other agencies to improve health of communities.</p> <p>Describe the ethical and professional issues inherent in health advocacy, including altruism, social justice, autonomy, integrity and idealism.</p> <p>Appreciate the possibility of conflict inherent in their role as a health advocate for a patient or community with that of manager or gatekeeper.</p> <p>Describe the role of the medical profession in advocating collectively for health and patient safety.</p>		

Teaching and Learning (Scholar)



Teaching and Learning (Scholar)

Practitioners should actively contribute to further research, development, appraisal, understanding and dissemination of health care knowledge among their professional colleagues, students and patients and within the broader community.

Practitioners must model and engage in a process of continuing professional and educational development in order to maintain, further develop and extend their professional knowledge, clinical skills and technical expertise.

Element	Learning Outcomes	Level	Assess
<i>Educate patients, colleagues and the wider community</i>	Describe and implement the most effective methods of health education delivery. Identify and discuss the different learning styles.	BT	FExam
	Collaboratively identify the learning needs and desired learning outcomes of others. Select effective teaching strategies and content to facilitate others learning. Use available information, including internet resources, and develop new information to inform patients and deliver meaningful health education. Assess and reflect on a teaching encounter. Provide effective feedback.	AT	SITA/ MSF
<i>Contribute to the development of new knowledge by active involvement in research.</i>	Perform a literature search and review. Critically appraise information from different sources. Formulate a research question. Design and construct original research studies. Develop appropriate protocol and methods for research including submission to appropriate ethics committee. Apply knowledge of statistical methods. Collect, store, analyse and evaluate research data. Identify sources of, and prepare applications for, research funding.	BT	Pub& Pres
<i>Present research findings in written and oral form</i>	Present research data in written form, including: <ul style="list-style-type: none"> • writing an abstract • writing an ethics application • preparing research for publication • using appropriate referencing 	BT	Pub & Pres

Element	Learning Outcomes	Level	Assess
	<p>Present research data in oral form, including:</p> <ul style="list-style-type: none"> • presentation at College conference or equivalent • presentation at Grand Rounds • poster presentation 		
<i>Apply principles of evidence based medicine</i>	<p>Understand advantages and disadvantages of different study methodologies (eg. case controlled cohorts, randomised controlled trials etc).</p> <p>Critically appraise literature and:</p> <ul style="list-style-type: none"> • formulate a clinical question from a case scenario or clinical case • conduct a literature search • evaluate the quality and applicability of evidence • identify the limitations of evidence <p>Apply evidence to a specific clinical situation and describe how findings influence practice.</p>	BT	Pub & Pres
<i>Maintain and enhance professional activities through ongoing learning</i>	<p>Recognise and reflect learning issues in practice.</p> <p>Identify preferred learning style(s).</p> <p>Identify suitable resources available for continuing professional and educational development.</p> <p>Integrate new learning into practice.</p> <p>Evaluate impact of any change in practice.</p> <p>Document the learning process.</p> <p>Model and actively promote continuing professional and educational development amongst staff and professional colleagues.</p> <p>Participate in the College Professional Development Program.</p>	AT	Pub & Pres

Ethics



Ethics

Ethics pervades every aspect of the clinical practice, from communication to critical reflection and professional standards. While it is important to bear in mind the relationship of health law and practice, it is important also to understand the distinction between law and ethics. The practitioner must cultivate ethical reflection and ethical behaviour through an awareness of ethical principles, health law, and the limits of science.

Element	Learning Outcomes	Level	Assess
<i>Critically reflect on personal beliefs, biases and behaviours</i>	<p>Recognise patients' different belief and value systems and the need to be tolerant and respectful of those that differ from one's own.</p> <p>Consider how different religious traditions may determine beliefs regarding clinical issues and contribute to decisions about medical treatment.</p> <p>Critically reflect on how your religious beliefs, cultural traditions and personal experience have shaped your ethics regarding clinical issues.</p>	BT	FExam
<i>Apply an ethical framework to clinical practice</i>	<p>Source international, national, state/territory and local codes, principles and declarations regarding ethical conduct.</p> <p>Outline bioethical principles, including justice, autonomy, beneficence and non-maleficence.</p> <p>Examine the use of ethical frameworks that may be used to aid clinical decision making and apply a framework to clinical practice.</p> <p>Develop actions to manage situations where one's own beliefs and institutional policy are not aligned.</p>	BT	FExam SITA /MSF
<i>Apply ethical principles underpinning the conduct of research</i>	<p>Source international, national, state or territory and local codes, principles and declarations regarding the ethical conduct of research.</p> <p>Source legal regulation around research at federal, state and territory levels.</p> <p>Obtain approval for research from the appropriate ethics committee prior to commencing research.</p> <p>Conduct scientifically valid research with methods that are appropriate to aims.</p> <p>Explain the principles of informed consent.</p> <p>Obtain genuine informed consent from the subject or appropriate legally authorised guardian.</p> <p>Carefully consider, manage and minimise risk associated with research (beneficence and non-</p>	BT	Pub& Pres

Element	Learning Outcomes	Level	Assess
	maleficence.		
<i>Apply relevant legal legislation to clinical practice</i>	<p>Be aware of legislation regarding malpractice and disciplinary processes in relation to malpractice.</p> <p>Explain and apply relevant legal legislation regarding:</p> <ul style="list-style-type: none"> • privacy and confidentiality as it relates to interactions with patients and their family • informed consent and the importance of obtaining consent • the patient's right to make their own decisions, and their rights regarding the refusal of treatment/procedures • consent to partake or withdraw from medical treatment for adolescents • decision-making capacity (competence) including the appointment of surrogate decision makers • child protection and reporting issues to the appropriate authority <p>Prepare appropriate legal statements for submission.</p>	BT	FExam SITA/ MSF