

Table of Contents

List of abbreviations	9
Introduction	10

PART I

CHEMICAL PEELING: THE ESSENCE OF THE TREATMENT

1.1. Clinical effects	12
1.1.1. General indications for chemical peeling: epidermal problems	13
1.1.2. General contraindications	15
1.2. Biological basis	15
1.2.1. Chemical peeling is based on the skin's ability to renew itself	15
1.2.2. Epidermis, the primary target for chemical peels	16
1.2.3. Chemical peeling «inside-out» and «outside-in»: What's the difference?	18

PART II

TYPES OF CHEMICAL PEELS

Chapter 1. Keratolytic peel.....	21
1.1. Features of keratolytic peels	21
1.1.1. Mechanism of action.....	21
1.1.2. Skin targets for keratolytic agents.....	22
Skin surface	22
Living layers	23
1.1.3. Features of keratolytic peeling	24
1.2. Trichloroacetic acid.....	25
1.2.1. Mechanism of action	26
1.2.2. Safety aspects	28
1.2.3. Practical aspects	28
1.2.4. Modified TCA for chemical skin remodeling	30

1.3. Phenol	32
1.3.1. Mechanism of action	33
1.3.2. Safety aspects	35
1.3.3. Practical aspects	37
1.4. Salicylic acid and lipohydroxy acid (LHA)	39
1.4.1. Mechanism of action and clinical effects	40
1.4.2. Indications and contraindications	42
1.4.3. Practical aspects	43
1.5. Resorcinol and Jessner peel	44
1.5.1. Mechanism of action	44
1.5.2. Safety aspects	45
1.5.3. Modified Jessner peel	45
Chapter 2. Acid peels	47
2.1. Hydroxy acids: chemical structure and classification	47
2.2. Mechanism of action	49
2.3. α -Hydroxy acids (AHAs)	54
2.3.1. AHAs for topical application	54
Glycolic acid	54
Lactic acid	55
Pyruvic acid	55
Mandelic acid	56
Tartaric acid	57
Malic acid	57
Citric acid	58
2.3.2. Clinical effects	58
Scaling	58
Moisturizing	59
Soothing	59
2.3.3. Features of AHA-containing formulations	59
Combinations of active ingredients	60
Optimal base	61
pH of the finished product	62
2.3.4. Indications and practical aspects	62
Skincare routine, age-related changes prevention, and treatment	62

Acne, post-acne	64
Atopic dermatitis	64
<i>Pseudofolliculitis barbae</i>	65
Ichthyosis	65
Keratosis	66
Warts	67
2.3.5 Contraindications and safety	68
2.4 Polyhydroxy acids (PHAs)	69
2.4.1 Gluconic acid and gluconolactone	69
2.4.2 Lactobionic acid	71
Chapter 3. Enzymatic peels	73
3.1. <i>Stratum corneum</i> 's proteases: types and functions	74
3.1.1 Proteases and antiproteases	75
Serine proteases	75
Aspartate proteases	77
Cysteine proteases	77
Antiproteases	78
3.1.2. Aesthetic treatments affecting the <i>stratum corneum</i> 's proteases activity	78
3.2. Prescription features of enzymatic peels	80
3.2.1. Proteases — the main active components of enzymatic peels	80
Plant proteases	80
Proteases of microbial origin	82
Proteases of animal origin	82
Modified natural peptidases	83
3.2.2. How to keep the enzyme active	84
3.2.3. Combining enzymes with other peeling agents in one formulation	85
Enzymes + salicylic acid	85
Enzymes + AHAs	86
3.3. Clinical effects	87
3.4. Practical aspects	89
3.4.1. Indications and contraindications	89
3.4.2. How to perform enzymatic peeling	91

3.4.3. How enzymatic exfoliants are combined with AHA-based peels	93
Chapter 4. Retinol peels	94
4.1. Retinol and its derivatives: structure, metabolism, mechanism of action	94
4.1.1. Retinol — the first in the series of vitamins.....	94
4.1.2. Retinol transformations in the body and the cell.....	96
4.1.3. Synthetic retinoids	100
4.1.4. Plant retinoids.....	101
4.1.5. How to explain the variety of clinical effects of retinoids	102
4.2. Dermal effects of retinoids	103
4.2.1. Keratinocytes and keratinization of the epidermis	106
4.2.2. Sebocytes and acne	107
4.2.3. Hair follicle cells and hair loss	108
4.2.4. Langerhans cells and skin immunity	109
4.2.5. Melanocytes and skin pigmentation	109
4.2.6. Fibroblasts and wrinkle smoothing	110
4.3. Topical retinoids in cosmetic dermatology and skincare	111
4.3.1. Drugs and cosmetic formulations	112
4.3.2. Adverse effects and contraindications to the use of retinol cosmetics	114
4.4. Prescription features of retinol products.....	114
4.4.1. Choosing the optimal dose	114
4.4.2 How to keep retinol active	115
4.4.3 Combination with other active substances.....	117
4.5. Peculiarities of retinol peeling «within-out»	118
4.6. Practical aspects	119

PART III

GENERAL PRINCIPLES OF THE CHEMICAL PEEL

1.1. Choice of peel formulation	122
1.2. Pre-peeling	127
1.3. Peeling procedure	127

1.3.1. Skin cleansising.....	127
1.3.2. During the procedure.....	128
1.4. Post-treatment rehabilitation	129
1.4.1. Calming and inflammation	130
1.4.2. Occlusive agents and barrier function	131
1.4.3. UV filters and sun protection	132
1.5. Influence of nutrition on the clinical effect of chemical peeling.....	133
1.5.1. Pre-peeling preparation	134
1.5.2. Rehabilitation	134

PART IV

INSTRUMENTAL ASSESSMENT OF SKIN CONDITION AND AFTER-TREATMENT SUPPORT OF BARRIER FUNCTION

1.1. Symptoms of skin damage after chemical peeling.....	136
1.2. Post-peeling dryness: causes, assessment, treatment.....	137
1.2.1. Desquamation	139
1.2.2. Transepidermal water loss	141
1.2.3. Sebum	143
1.2.4. Hydration	144
1.3. Comprehensive approach to the assessment and treatment of dryness	146
References	148