

# Contents

## Part I Types of Chemical Peels: Advantages/Disadvantages – an Illustrated Algorithm

<b>1</b>	<b>Types of Chemical Peels</b> . . . .	<b>3</b>
	Antonella Tosti, Maria Pia De Padova, Matilde Iorizzo	
<b>1.1</b>	<b>Advantages/Disadvantages</b> . . . .	<b>4</b>
<b>1.1.1</b>	<b>Glycolic Acid</b> . . . . .	<b>4</b>
<b>1.1.1.1</b>	<b>Advantages</b> . . . . .	<b>4</b>
<b>1.1.1.2</b>	<b>Disadvantages</b> . . . . .	<b>4</b>
<b>1.1.2</b>	<b>Jessner's Solution</b> . . . . .	<b>4</b>
<b>1.1.2.1</b>	<b>Advantages</b> . . . . .	<b>4</b>
<b>1.1.2.2</b>	<b>Disadvantages</b> . . . . .	<b>4</b>
<b>1.1.3</b>	<b>Pyruvic Acid</b> . . . . .	<b>5</b>
<b>1.1.3.1</b>	<b>Advantages</b> . . . . .	<b>5</b>
<b>1.1.3.2</b>	<b>Disadvantages</b> . . . . .	<b>5</b>
<b>1.1.4</b>	<b>Resorcinol</b> . . . . .	<b>5</b>
<b>1.1.4.1</b>	<b>Advantages</b> . . . . .	<b>5</b>
<b>1.1.4.2</b>	<b>Disadvantages</b> . . . . .	<b>5</b>
<b>1.1.5</b>	<b>Salicylic Acid</b> . . . . .	<b>5</b>
<b>1.1.5.1</b>	<b>Advantages</b> . . . . .	<b>5</b>
<b>1.1.5.2</b>	<b>Disadvantages</b> . . . . .	<b>5</b>
<b>1.1.6</b>	<b>Trichloroacetic Acid</b> . . . . .	<b>5</b>
<b>1.1.6.1</b>	<b>Advantages</b> . . . . .	<b>5</b>
<b>1.1.6.2</b>	<b>Disadvantages</b> . . . . .	<b>6</b>
<b>1.1.7</b>	<b>Deep Chemical Peels</b> . . . . .	<b>6</b>
<b>1.1.7.1</b>	<b>Advantages</b> . . . . .	<b>6</b>
<b>1.1.7.2</b>	<b>Disadvantages</b> . . . . .	<b>6</b>
<b>1.1.8</b>	<b>Combination Peels:</b> <b>Salicylic Acid + TCA</b> . . . . .	<b>6</b>
<b>1.1.8.1</b>	<b>Advantages</b> . . . . .	<b>6</b>
<b>1.1.8.2</b>	<b>Disadvantages</b> . . . . .	<b>6</b>
<b>1.2</b>	<b>How to Choose the Best Peeling for the Patient</b> . . . . .	<b>6</b>
<b>1.2.1</b>	<b>Acne</b> . . . . .	<b>6</b>
<b>1.2.2</b>	<b>Actinic Keratosis</b> . . . . .	<b>7</b>

<b>1.2.3</b>	<b>Dark Skin</b> . . . . .	<b>8</b>
<b>1.2.4</b>	<b>Melasma</b> . . . . .	<b>8</b>
<b>1.2.5</b>	<b>Photoaging</b> . . . . .	<b>9</b>
<b>1.2.6</b>	<b>Post-inflammatory Hyperpigmentation</b> . . . . .	<b>9</b>
<b>1.2.7</b>	<b>Rosacea</b> . . . . .	<b>9</b>
<b>1.2.8</b>	<b>Solar Lentigo</b> . . . . .	<b>10</b>

## Part II Modalities of Application

<b>2</b>	<b>Glycolic Acid</b> . . . . .	<b>13</b>
	Gabriella Fabbrocini, Maria Pia De Padova, Antonella Tosti	
<b>2.1</b>	<b>History</b> . . . . .	<b>13</b>
<b>2.2</b>	<b>Chemical Background</b> . . . . .	<b>13</b>
<b>2.3</b>	<b>Properties</b> . . . . .	<b>13</b>
<b>2.4</b>	<b>Formulations</b> . . . . .	<b>13</b>
<b>2.5</b>	<b>Indications</b> . . . . .	<b>14</b>
<b>2.6</b>	<b>Contraindications</b> . . . . .	<b>14</b>
<b>2.7</b>	<b>Peeling Preparation</b> . . . . .	<b>14</b>
<b>2.8</b>	<b>Peeling Technique</b> . . . . .	<b>16</b>
<b>2.9</b>	<b>Post-peeling Care and Complications</b> . . . . .	<b>19</b>
<b>2.10</b>	<b>Disadvantages</b> . . . . .	<b>19</b>
<b>2.11</b>	<b>Side Effects</b> . . . . .	<b>19</b>
<b>2.12</b>	<b>Results</b> . . . . .	<b>20</b>
<b>2.13</b>	<b>Informed Consent</b> . . . . .	<b>20</b>
	<b>References</b> . . . . .	<b>21</b>

<b>3</b>	<b>Jessner's Solution</b> . . . . .	<b>23</b>	<b>5</b>	<b>Resorcinol</b> . . . . .	<b>41</b>
	Pearl E. Grimes			Ilaria Ghersetich, Benedetta Brazzini, Torello Lotti, Maria Pia De Padova, Antonella Tosti	
3.1	History . . . . .	23	5.1	History . . . . .	41
3.2	Chemical Background . . . . .	23	5.2	Chemical Background and Properties . . . . .	41
3.3	Formulations . . . . .	24	5.3	Formulations . . . . .	41
3.4	Indications . . . . .	25	5.4	Indications . . . . .	42
3.5	Contraindications . . . . .	25	5.5	Contraindications . . . . .	42
3.6	Skin Preparation . . . . .	26	5.6	Peeling Preparation . . . . .	44
3.7	Peeling Technique . . . . .	27	5.7	Peeling Technique . . . . .	44
3.8	Post-peel Care . . . . .	27	5.8	After Peel Care . . . . .	45
3.9	Advantages of Jessner's Peeling	27	5.9	Side Effects . . . . .	45
3.10	Disadvantages of Jessner's Peeling . . . . .	27	5.10	Advantages . . . . .	46
3.11	Side Effects . . . . .	28	5.11	Disadvantages . . . . .	46
3.12	Patient's Informed Consent . .	28	5.12	Patient's Informed Consent . .	46
	References . . . . .	29		References . . . . .	47
<b>4</b>	<b>Pyruvic Acid</b> . . . . .	<b>31</b>	<b>6</b>	<b>Salicylic Acid</b> . . . . .	
	Ilaria Ghersetich, Benedetta Brazzini, Torello Lotti, Maria Pia De Padova, Antonella Tosti			Pearl E. Grimes	
4.1	History . . . . .	31	6.1	History . . . . .	49
4.2	Properties . . . . .	31	6.2	Chemical Background/Properties	49
4.3	Indications . . . . .	31	6.3	Formulations . . . . .	50
4.4	Formulations . . . . .	32	6.4	Indications . . . . .	50
4.5	Contraindications . . . . .	32	6.5	Contraindications . . . . .	50
4.6	Peeling Preparation (Home Treatment) . . . . .	32	6.6	Patient Preparation . . . . .	51
4.7	Peeling Technique . . . . .	32	6.7	Peeling Technique . . . . .	51
4.8	Post-peeling Care . . . . .	35	6.8	Post-peeling Care and Complications . . . . .	55
4.9	Side Effects . . . . .	35	6.9	Advantages . . . . .	55
4.10	Advantages . . . . .	35	6.10	Disadvantages . . . . .	56
4.11	Disadvantages . . . . .	35	6.11	Side Effects . . . . .	56
4.12	Results . . . . .	35	6.12	Patient's Informed Consent . .	56
4.13	Patient's Informed Consent . .	38		References . . . . .	57
	References . . . . .	39			

<b>7</b>	<b>Trichloroacetic Acid</b> . . . . .	59	8.12.3	Scarring	86
	Christopher B. Harmon, Michael Hadley, Payam Tristani		8.12.4	Infection	86
<b>7.1</b>	<b>History</b> . . . . .	59	8.12.5	Milia	86
<b>7.2</b>	<b>Chemical Background</b> . . . . .	59	8.12.6	Acneiform Dermatitis	86
<b>7.3</b>	<b>Chemical Formulations</b> . . . . .	59	8.12.7	Skin atrophy	87
<b>7.4</b>	<b>Classification of Peel Depths</b> . . . . .	60	<b>8.13</b>	<b>Advantages</b> . . . . .	87
<b>7.5</b>	<b>Indications</b> . . . . .	61	<b>8.14</b>	<b>Disadvantages</b> . . . . .	87
<b>7.6</b>	<b>Facial Versus Non-facial Skin</b> . . . . .	63	<b>8.15</b>	<b>Patient's Informed Consent</b> . . . . .	87
<b>7.7</b>	<b>Peeling Preparation</b> . . . . .	63		<b>References</b> . . . . .	88
<b>7.8</b>	<b>Peeling Technique</b> . . . . .	64	<b>9</b>	<b>Deep Chemical Peels for Post-acne Scarring</b> . . . . .	91
<b>7.9</b>	<b>Post-peeling Care</b> . . . . .	65		Marina Landau	
<b>7.10</b>	<b>Complications</b> . . . . .	66	<b>9.1</b>	<b>History and Classification</b> . . . . .	91
<b>7.11</b>	<b>Advantages/Disadvantages of TCA Peels</b> . . . . .	66	<b>9.2</b>	<b>Indications</b> . . . . .	93
<b>7.12</b>	<b>Conclusion</b> . . . . .	66	<b>9.3</b>	<b>Contraindications</b> . . . . .	93
	<b>References</b> . . . . .	67	<b>9.4</b>	<b>Pre-peeling Preparation</b> . . . . .	93
<b>8</b>	<b>Deep Chemical Peels for Photoaging</b> . . . . .	69	<b>9.5</b>	<b>Peeling Technique</b> . . . . .	94
	Marina Landau		<b>9.6</b>	<b>Aftercare</b> . . . . .	96
<b>8.1</b>	<b>History</b> . . . . .	69	<b>9.7</b>	<b>Advantages</b> . . . . .	96
<b>8.2</b>	<b>Chemical Background</b> . . . . .	70	<b>9.8</b>	<b>Disadvantages</b> . . . . .	96
<b>8.3</b>	<b>Formulations</b> . . . . .	70		<b>References</b> . . . . .	100
<b>8.4</b>	<b>Histology</b> . . . . .	71	<b>10</b>	<b>Combination Salicylic Acid/ TCA Chemical Peeling</b> . . . . .	103
<b>8.5</b>	<b>Indications and Patient Selection</b> . . . . .	72		Pearl E. Grimes	
<b>8.6</b>	<b>Contraindications</b> . . . . .	72	<b>10.1</b>	<b>History</b> . . . . .	103
<b>8.7</b>	<b>Pre-peeling Preparation</b> . . . . .	73	<b>10.2</b>	<b>Chemical Background/Properties</b> . . . . .	103
<b>8.8</b>	<b>Preparation of the Skin</b> . . . . .	73	<b>10.3</b>	<b>Formulations</b> . . . . .	104
<b>8.9</b>	<b>Peeling Preparation</b> . . . . .	74	<b>10.4</b>	<b>Indications</b> . . . . .	104
<b>8.10</b>	<b>Peeling Technique</b> . . . . .	75	<b>10.5</b>	<b>Contraindications</b> . . . . .	105
<b>8.11</b>	<b>Aftercare</b> . . . . .	79	<b>10.6</b>	<b>Peeling Preparations</b> . . . . .	107
<b>8.12</b>	<b>Complications</b> . . . . .	85	<b>10.7</b>	<b>Peeling Technique</b> . . . . .	108
8.12.1	Cardiac Arrhythmias . . . . .	85	<b>10.8</b>	<b>Post-peeling Care and Complications</b> . . . . .	109
8.12.2	Pigmentary Changes . . . . .	85	<b>10.9</b>	<b>Advantages</b> . . . . .	109
			<b>10.10</b>	<b>Disadvantages</b> . . . . .	109
			<b>10.11</b>	<b>Side Effects</b> . . . . .	109
			<b>10.12</b>	<b>Patient's Informed Consent</b> . . . . .	109
				<b>References</b> . . . . .	110

### Part III How to Choose the Best Peeling for the Patient

<b>11</b>	<b>Acne</b> . . . . .	113	<b>13.4</b>	<b>Peeling Indications in Dark Skin</b>	140
	Vincenzo Bettoli, Alessandro Borghi, Maria Pia De Padova, Antonella Tosti		<b>13.5</b>	<b>Peel Selection</b> . . . . .	140
<b>11.1</b>	<b>Definition</b> . . . . .	113	<b>13.6</b>	<b>Peeling Preparation</b> . . . . .	141
<b>11.2</b>	<b>Epidemiology</b> . . . . .	113	<b>13.7</b>	<b>Peeling Techniques</b> . . . . .	143
<b>11.3</b>	<b>Pathophysiology</b> . . . . .	113	<b>13.8</b>	<b>Superficial Peeling Agents</b> . . . . .	143
<b>11.4</b>	<b>Clinical Patterns</b> . . . . .	114	<b>13.8.1</b>	Glycolic Acid . . . . .	143
<b>11.5</b>	<b>Clinical Types</b> . . . . .	119	<b>13.8.2</b>	Salicylic Acid . . . . .	144
<b>11.6</b>	<b>Differential Diagnosis</b> . . . . .	121	<b>13.8.3</b>	Jessner's Solution . . . . .	144
<b>11.7</b>	<b>Therapy</b> . . . . .	122	<b>13.8.4</b>	Tretinoin Peeling . . . . .	144
	<b>References</b> . . . . .	131	<b>13.8.5</b>	Trichloroacetic Acid . . . . .	146
			<b>13.8.6</b>	Medium and Deep Peels . . . . .	147
<b>12</b>	<b>Actinic Keratosis</b> . . . . .	133	<b>13.9</b>	<b>Summary</b> . . . . .	147
	Ilaria Ghersetich, Benedetta Brazzini, Maria Pia De Padova, Antonella Tosti			<b>References</b> . . . . .	148
<b>12.1</b>	<b>Definition</b> . . . . .	133	<b>14</b>	<b>Melasma</b> . . . . .	149
<b>12.2</b>	<b>Etiology</b> . . . . .	135		Matilde Iorizzo, Antonella Tosti, Maria Pia De Padova	
<b>12.3</b>	<b>Clinical Types</b> . . . . .	135	<b>14.1</b>	<b>Definition</b> . . . . .	149
<b>12.4</b>	<b>Histopathology</b> . . . . .	136	<b>14.2</b>	<b>Epidemiology</b> . . . . .	149
<b>12.5</b>	<b>Diagnostic Criteria</b> . . . . .	136	<b>14.3</b>	<b>Etiology</b> . . . . .	150
<b>12.6</b>	<b>Differential Diagnosis</b> . . . . .	136	<b>14.4</b>	<b>Clinical Features</b> . . . . .	150
<b>12.7</b>	<b>Therapy</b> . . . . .	136	<b>14.5</b>	<b>Diagnostic Criteria</b> . . . . .	151
<b>12.8</b>	<b>Management of the Patient</b> . . . . .	138	<b>14.6</b>	<b>Therapy</b> . . . . .	152
	<b>References</b> . . . . .	138	<b>14.6.1</b>	Sunscreens . . . . .	152
<b>13</b>	<b>Chemical Peels in Dark Skin</b> . . . . .	139	<b>14.6.2</b>	Hydroquinone . . . . .	152
	Pearl E. Grimes		<b>14.6.3</b>	Azelaic Acid . . . . .	153
<b>13.1</b>	<b>Definition</b> . . . . .	139	<b>14.6.4</b>	Kojic Acid . . . . .	153
<b>13.2</b>	<b>Epidemiology</b> . . . . .	139	<b>14.6.5</b>	Retinoic Acid (Tretinoin) . . . . .	153
<b>13.3</b>	<b>Morphologic and Physiologic Skin Differences in Dark Skin</b> . . . . .	139	<b>14.6.6</b>	Chemical Peels . . . . .	153
			<b>14.7</b>	<b>Why Is a Combined Chemical Peel Useful for Treating Melasma?</b> . . . . .	158
			<b>14.7.1</b>	Laser . . . . .	158
			<b>14.7.2</b>	Cryotherapy . . . . .	158
				<b>References</b> . . . . .	159
<b>15</b>	<b>Photoaging</b> . . . . .	161			
	Pearl E. Grimes		<b>15.1</b>	<b>Definition</b> . . . . .	161
<b>15.1</b>	<b>Definition</b> . . . . .	161	<b>15.2</b>	<b>Etiology</b> . . . . .	161

15.3	<b>Epidemiology</b> . . . . .	162	17	<b>Rosacea</b> . . . . .	185
15.4	<b>Clinical Types</b> . . . . .	164		Maria Pia De Padova, Matilde Iorizzo, Antonella Tosti	
15.5	<b>Therapeutic Intervention</b> . . .	164	17.1	<b>Definition</b> . . . . .	185
15.5.1	Photoprotection . . . . .	164	17.2	<b>Epidemiology</b> . . . . .	185
15.5.2	Retinoids . . . . .	165	17.3	<b>Pathology</b> . . . . .	185
15.5.3	Tretinoin . . . . .	166	17.4	<b>Clinical Types (Clinical Stages)</b>	185
15.5.4	Tazarotene . . . . .	167	17.5	<b>Diagnostic Criteria</b> . . . . .	191
15.5.5	Retinol . . . . .	167	17.6	<b>Differential Diagnosis</b> . . . . .	191
15.5.6	Vitamin C . . . . .	167	17.7	<b>Therapy</b> . . . . .	191
15.5.7	Alpha Hydroxy Acids . . . . .	168	17.8	<b>Erythrosis</b> . . . . .	191
15.5.8	Polyhydroxy Acids . . . . .	168	17.9	<b>Papulo-Pustular Rosacea</b> . . . .	192
15.6	<b>Bleaching Agents</b> . . . . .	168	17.10	<b>Rhinophyma</b> . . . . .	192
15.6.1	Hydroquinone . . . . .	168	17.11	<b>How to Perform the Best Peeling for the Treatment of Rosacea</b> . .	193
15.6.2	Azelaic Acid . . . . .	169	17.12	<b>Peeling Technique</b> . . . . .	196
15.6.3	Kojic Acid . . . . .	169		<b>References</b> . . . . .	198
15.6.4	Miscellaneous . . . . .	169			
15.7	<b>Chemical Peels for Photoaging</b> .	169	18	<b>Solar Lentigo</b> . . . . .	199
15.8	<b>Superficial Peeling Agents</b> . . .	169		Ilaria Ghersetich, Benedetta Brazzini, Maria Pia De Padova, Antonella Tosti	
15.9	<b>Medium-Depth Peeling</b> . . . . .	170	18.1	<b>Definition</b> . . . . .	199
15.10	<b>Summary</b> . . . . .	173	18.2	<b>Epidemiology</b> . . . . .	199
	<b>References</b> . . . . .	173	18.3	<b>Etiology</b> . . . . .	199
16	<b>Post-inflammatory Hyperpigmentation</b> . . . . .	177	18.4	<b>Clinical Features</b> . . . . .	199
	Teresa Soriano, Pearl E. Grimes		18.5	<b>Pathology</b> . . . . .	200
16.1	<b>Definition</b> . . . . .	177	18.6	<b>Diagnostic Criteria</b> . . . . .	200
16.2	<b>Epidemiology</b> . . . . .	177	18.7	<b>Therapy</b> . . . . .	200
16.3	<b>Etiology</b> . . . . .	177		<b>References</b> . . . . .	205
16.4	<b>Clinical Types</b> . . . . .	178			
16.5	<b>Diagnostic Criteria</b> . . . . .	178			
16.6	<b>Differential Diagnosis</b> . . . . .	178			
16.7	<b>Therapy</b> . . . . .	178			
16.8	<b>Topical Agents</b> . . . . .	178			
16.9	<b>Chemical Peels</b> . . . . .	180			
16.10	<b>Summary</b> . . . . .	182			
	<b>References</b> . . . . .	182			

Part IV	
Management of the Patient	
19	Management of the Patient . . . 209
	Maria Pia De Padova,
	Antonella Tosti
19.1	Patient Selection . . . . . 209
19.2	Patient Evaluation . . . . . 209
19.3	Instructions . . . . . 209
19.3.1	Pre-operative Phase . . . . . 209
19.3.2	Post-operative Phase . . . . . 210
19.4	Photographs . . . . . 210
Subject Index . . . . . 213	

Color Atlas of Chemical Peels

Tosti, A.; Grimes, P.E.; De Padova, M.P. (Eds.)

2006, XIV, 216 p. 286 illus., 282 illus. in color.,

Hardcover

ISBN: 978-3-540-21279-9