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Atlas of Forensic Pathology

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Contents

Chapter 1	**Thanatology**	**1**
Chapter 2	**Mechanical Injuries**	**33**
Chapter 3	**Thermal Injuries**	**81**
Chapter 4	**Electrical Injuries**	**103**
Chapter 5	**Firearm Injuries**	**106**
Chapter 6	**Regional Injuries**	**115**
Chapter 7	**Transportation Injuries**	**150**
	7a Road Traffic Accidents	
	7b Railway Mishaps	
	7c Aircraft Mishaps	
Chapter 8	**Mechanical Asphyxia**	**164**
Index		*189*

CHAPTER 3

Thermal Injuries

Thermal injuries are caused by exposure to excessive heat/cold. In tropical climate, generalized effects of high temperatures may be seen in form of heat cramps, heat prostration, or heat hyperpyrexia. Localized effects of heat may be observed in form of burns resulting from dry heat and scalds occurring as a result of moist heat. Similarly, extreme degree of cold can cause hypothermia or a frost bite, trench foot and immersion foot locally.

Injuries caused due to the localized effects of heat are classified based on the extent of damage to the skin and underlying tissues. A few of these classifications include Dupuytren's classification, Hebra's classification, Wilson's classification, and Modern classification. The effects and outcome of burns depend on various factors such as the degree of heat, duration of exposure, extent and parts of the body involved, and age and sex of the individual. Death in cases of fatal burns may be immediate, early or delayed. The immediate cause of death may be neurogenic shock, suffocation or secondary injuries while septicemia remains the most common cause of delayed death in thermal burns.

Burns produced by flame cause singeing of hairs, and blackening of skin. Blister formation and skin slippage are other associated features. Pus and slough formation is a delayed change that is often related with septicemia as the cause of death. The pressure areas are known to escape the effects of heat. Identification features such as tattoo marks are retained even when superficial layer is damaged in burns.



Figure 1 A charred body found in an open area

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Figure 2 Burnt areas with evidence of blackening, peeling and reddening of skin



Figure 3 Burns involving the face and chest

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Figure 4 Burns involving the face with singeing of facial hair



Figure 5 Blackening of face, singeing of scalp and facial hair with soot deposition over teeth

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Figure 6 Singeing of scalp hair



Figure 7 Demarcation (erythema) between healthy and burnt area

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Figure 8 Blackening of skin with blister formation over trunk and spared areas over chest



Figure 9 Blackening and peeling of skin in burns

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Figure 10 Reddening and peeling of the skin at the back



Figure 11 Burn areas with red line of demarcation

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Figure 12 Intact tattoo marks in burn areas



Figure 13 Retained tattoo mark over forearm in superficial burns

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Figure 14 Peeling of the skin of hands with underlying erythema



Figure 15 Peeling of the skin of sole in burns

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Figure 16 Deep burns with greenish yellow discoloration



Figure 17 Infected areas over back in burns

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Figure 18 Pus and slough formation over infected areas in burns



Figure 19 Burn areas showing pus and slough formation with partial healing

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Figure 20 Burn areas with pus and slough formation



Figure 21 Infected burn areas over lower limbs

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Figure 22 Granulation tissue and evidence of scarring



Figure 23 Granulation tissue over the face, chest and upper limbs

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Figure 24 Granulation tissue over the face and upper chest with infected areas



Figure 25 Granulation tissue over the face

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Atlas of Forensic Pathology

Salient Features

- The atlas comprises of more than 250 high quality photographs on the subject specialty of Forensic Pathology
- It will be a good learning opportunity for the undergraduate and postgraduate students of Forensic Medicine
- This will prove to be a useful reference source for legal and judicial fraternity
- Brief introduction at the beginning of each chapter provides a bird's eye view of the topic to the reader
- The book justifies the saying "A picture is a worth thousand words", each photograph enriches the reader with relevant information in a lucid way.

Shelving
Recommendation
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