

Essentials of Autopsy Practice

Guy N. Ruty
Editor

Essentials of Autopsy Practice

Advances, Updates and Emerging
Technologies

 Springer

Editor

Guy N. Ruttly, MBE, MBBS, MD, FRCPath,
DipRCPath(Forensic), FFFLM, FFSSoc
East Midlands Forensic Pathology Unit
University of Leicester
Leicester
Leicestershire
UK

ISBN 978-1-4471-5269-9 ISBN 978-1-4471-5270-5 (eBook)
DOI 10.1007/978-1-4471-5270-5
Springer London Heidelberg New York Dordrecht

Library of Congress Control Number: 2013946201

© Springer-Verlag London 2014

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed. Exempted from this legal reservation are brief excerpts in connection with reviews or scholarly analysis or material supplied specifically for the purpose of being entered and executed on a computer system, for exclusive use by the purchaser of the work. Duplication of this publication or parts thereof is permitted only under the provisions of the Copyright Law of the Publisher's location, in its current version, and permission for use must always be obtained from Springer. Permissions for use may be obtained through RightsLink at the Copyright Clearance Center. Violations are liable to prosecution under the respective Copyright Law.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

While the advice and information in this book are believed to be true and accurate at the date of publication, neither the authors nor the editors nor the publisher can accept any legal responsibility for any errors or omissions that may be made. The publisher makes no warranty, express or implied, with respect to the material contained herein.

Printed on acid-free paper

Springer is part of Springer Science+Business Media (www.springer.com)

Preface

As the world continues to debate the role of cross-sectional imaging in autopsy practice, either as an adjunct or a replacement, what is becoming clear is that the autopsy will still exist into the foreseeable future. Despite the decline in academic forensic pathology, there remains a steady flow of emerging techniques and advances in practice, often due to translation from clinical medicine or other areas of science into autopsy investigations. With these advances and the emerging role of cross-sectional imaging, autopsy practice is developing a more multidisciplinary approach to the investigations, becoming more evidence based, with increase in quality and training to ensure that the next generation not only applies the most appropriate technique to the investigation at hand but can provide as much information in relation to the four fundamental questions of who, where, when, and by what means did the person come by their death. Practitioners not normally associated with autopsy practice, for example, radiologists, interventional cardiologists, and engineers, are now being drawn into this area of practice. The *Essentials* series has always been designed to keep all involved in the investigation of death abreast of changes within this field. As is the now established format of this series, I have identified subject matter and authors from across the world and brought them together to consider a broad range of topical subjects where changes in practice have recently occurred to assist trainees and consultants, generalists and specialists, and the new multidisciplinary team alike in keeping up to date with practice. In this edition, to embrace the multidisciplinary approach, I have deviated from the previous series by introducing chapters concerning advances in the field of forensic science, not just medicine, or approaches where different science and medicine disciplines work together, for example, pathology and engineering, pathology and radiology, or pathology and entomology. I hope, as with other editions of this series, that *Essentials* continues to provide an educational and practice resource for all involved in the investigation of death.

Leicestershire, UK

Guy N. Ruttly, MBE, MBBS, MD, FRCPath,
DipRCPath(Forensic), FFFLM, FFSSoc

Contents

1	Postmortem Computed Tomography (PMCT) Scanning with Angiography (PMCTA): A Description of Three Distinct Methods	1
	Bruno Morgan, Namiko Sakamoto, Seiji Shiotani, and Silke Grabherr	
2	Death by Hanging	23
	Anny Sauvageau	
3	Marine Toxins	39
	Thomas D. Waite, David J. Baker, and Virginia Murray	
4	The Dismembered Body	59
	Guy N. Ruttly and Sarah V. Hainsworth	
5	Medicolegal Autopsies and Pharmacogenetics	89
	Antti Sajantila	
6	Forensic Entomology: A Synopsis, Guide, and Update	105
	Ian Robert Dadour and Beryl Morris	
7	Advances in the Use of Latent Finger Marks	131
	John W. Bond	
	Index	149

Contributors

David J. Baker, MPhil, DM, FRCA, FRSM Centre for Radiation, Chemical and Environmental Hazards, Health Protection Agency, London, UK

John W. Bond, OBE, DPhil Department of Chemistry, University of Leicester, Leicester, Leicestershire, UK

Ian Robert Dadour, PhD Centre for Forensic Science, University of Western Australia, Nedlands, WA, Australia

Silke Grabherr, MD, PhD Unit of Forensic Medicine, University Center of Legal Medicine Lausanne-Geneva, University of Lausanne, Lausanne, Switzerland

Sarah V. Hainsworth, BEng (Hons), PhD, CEng, CSci, FIMMM Department of Engineering, University of Leicester, Leicester, Leicestershire, UK

Bruno Morgan, MA, PhD, BM, BCh, MRCP, FRCR Department of Radiology, University of Leicester, Leicester, Leicestershire, UK

Beryl Morris, BSc (Hons), MAgSc, MMgt, DBA, DipEd, GDipTchMgt, FRES, FAIM, FAICD, MPRIA Faculty of Science, University of Queensland, St. Lucia, QLD, Australia

Virginia Murray, FRCP, FFPH, FRCPath Centre for Radiation, Chemical and Environmental Hazards, Health Protection Agency, London, UK

Guy N. Ruttly, MBE, MBBS, MD, FRCPath, DipRCPath (Forensic), FFFLM, FFSSoc East Midlands Forensic Pathology Unit, University of Leicester, Leicester, Leicestershire, UK

Antti Sajantila, MD, PhD Department of Forensic Medicine, Hjelt Institute, University of Helsinki, Helsinki, Finland

Namiko Sakamoto, MD Department of Forensic Medicine, Hirosaki University
Graduate School of Medicine, Hirosaki City, Aomori Prefecture, Japan

Anny Sauvageau, MD, MSc Office of the Chief Medical Examiner,
Edmonton, AB, Canada

Seiji Shiotani, MD Department of Radiology, Tsukuba Medical Center,
Tsukuba, Ibaraki, Japan

Thomas D. Waite, MBBCh, MPH, DFPH Toxicology and Public Health,
Centre for Radiation, Chemical and Environmental Hazards,
Health Protection Agency, London, UK