Current Progress in Renal Replacement Therapy
A Global Contribution from the Japanese Society for Dialysis Therapy

Guest Editor
Kosaku Nitta, Tokyo

S. Karger
Medical and Scientific Publishers
Basel · Freiburg · Paris · London · New York · Chennai · New Delhi · Bangkok · Beijing · Shanghai · Tokyo · Kuala Lumpur · Singapore · Sydney
Not only are dialysis access creation and maintenance prone to complications, but patients suffering from end-stage renal disease and its comorbidities generally have a high risk of adverse events during their continuous treatment. Preventive strategies are key to avoid harm and to improve the outcome of the treatment of the growing number of patients with chronic kidney failure, especially as doctors and nurses are not always aware of the consequences of unsafe behavior.

This publication is intended for health care professionals—nurses as well as doctors—and aims to raise the awareness of patient safety aspects, combining medical education with evidence-based medicine. After a general overview of the topic, an international panel of authors provides a diversified insight into important concepts and technical tricks essential to create and maintain a functional dialysis access.

**Contents**

- Foreword: Vincent, C.
- Preface: Widmer, M.K.; Malik, J.

**The Topic**

- Patient Safety: What Is It All about? Schwappach, D.

**Preventive Treatment Strategies**

- Patients with Chronic Kidney Disease: Safety Aspects in the Preoperative Management: Malovrh, M.
- What Every Doctor Should Know about Drug Safety in Patients with Chronic Kidney Disease: Paparella, M.; Martina, V.; Rizzo, M.A.; Galleni, M.
- Cardiac Safety in Vascular Access Surgery and Maintenance: Malik, J.; Kudlicka, J.; Tesar, V.; Linhart, A.

**Dialysis Access Creation**

- Team Training to Establish a Safety Culture in Dialysis Access Surgery: Davidson, I.; Widmer, M.K.; Nolen, B.; Ross, J.; Slakey, D.P.
- How to Perform Safe Anesthesia in Patients with End-Stage Renal Disease: Seidl, C.; Eberle, B.

**Dealing with Complications of Vascular Access**

- How to Prolong the Patency of Vascular Access: Glazer, S.; Saint, L.; Shenoy, S.
- Safety Issues in Surgical and Endovascular Techniques to Rescue Failing or Failed Arteriovenous Fistulas and Arteriovenous Grafts: Lazarides, M.; Georgiadis, G.; Argyriou, C.
- Vascular Access-Induced Hand Ischemia: Risks and Safe Management: Sessa, C.; De Lambert, A.; Pirvu, A.; Palacin, P.; Pichot, O.

**Catheters as Dialysis Access**

- Patient Safety in Peritoneal Dialysis: Slakey, D.P.; Davidson, I.
- Safety Aspects in Patients on Hemodialysis with Catheters: Polakovic, V.; Lopot, F.

**Dialysis Access Care**

- How to Improve Vascular Access Care: van Loon, M.

**Outlook**

Critical Care Nephrology

Stefan D. Anker, Berlin
Massimo Antonelli, Rome
Sean M. Bagshaw, Edmonton, Alta.
Ian C. Baldwin, Heidelberg, Vic.
Fabio Barbarigo, Vicenza
Rinaldo Bellomo, Melbourne, Vic.
Guido Bertolini, Ranica
W. Kline Bolton, Charlottesville, Va.
Joseph V. Bonventre, Boston, Mass.
John Burkart, Winston-Salem, N.C.
Jorge Cerda, Albany, N.Y.
Lakhmir Chawla, Washington, D.C.
Maria Rosa Costanzo, Naperville, Ill.
Dinna N. Cruz, Vicenza
Andrew Davenport, London
Salvatore Di Somma, Rome
Enrico Fissacadori, Parma
Mihai Gheorghiade, Chicago, Ill.
Stuart L. Goldstein, Cincinnatti, Ohio
Michael Haase, Magdeburg
Patrick Honoré, Brussels
Eric Hoste, Ghent
Nevin Katz, Baltimore, Md.

(Continued on next page)
(Continued)

### Peritoneal Dialysis

<table>
<thead>
<tr>
<th>Name</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richard Amerling</td>
<td>New York, N.Y.</td>
</tr>
<tr>
<td>George L. Bakris</td>
<td>Chicago, Ill.</td>
</tr>
<tr>
<td>Jordi Bover</td>
<td>Barcelona</td>
</tr>
<tr>
<td>Joanne M. Bargman</td>
<td>Toronto, Ont.</td>
</tr>
<tr>
<td>Edwina A. Brown</td>
<td>London</td>
</tr>
<tr>
<td>Giovambattista Capasso</td>
<td>Naples</td>
</tr>
<tr>
<td>Ricardo Correa-Rotter</td>
<td>Mexico</td>
</tr>
<tr>
<td>Carlo Crepaldi</td>
<td>Vicenza</td>
</tr>
<tr>
<td>Olivier Devuyst</td>
<td>Zurich</td>
</tr>
<tr>
<td>Mariano Feriani</td>
<td>Mestre</td>
</tr>
<tr>
<td>Fredric Finkelstein</td>
<td>New Haven, Conn.</td>
</tr>
<tr>
<td>Guido Garosi</td>
<td>Siena</td>
</tr>
<tr>
<td>David Goldsmith</td>
<td>London</td>
</tr>
<tr>
<td>Roger N. Greenwood</td>
<td>Stevenage</td>
</tr>
<tr>
<td>Olof Heimbürger</td>
<td>Stockholm</td>
</tr>
<tr>
<td>Achim Joerres</td>
<td>Berlin</td>
</tr>
<tr>
<td>Raymond Krediet</td>
<td>Amsterdam</td>
</tr>
<tr>
<td>Vicenzo La Milia</td>
<td>Lecco</td>
</tr>
<tr>
<td>Zhi-Hong Liu</td>
<td>Nanjing</td>
</tr>
<tr>
<td>Francesca Martino</td>
<td>Vicenza</td>
</tr>
<tr>
<td>Rajnish Mehrotra</td>
<td>Seattle, Wash.</td>
</tr>
<tr>
<td>Piergiorgio Messa</td>
<td>Milan</td>
</tr>
<tr>
<td>Andrew Mooney</td>
<td>Leeds</td>
</tr>
<tr>
<td>K. Shivanand Nayak</td>
<td>Hyderabad</td>
</tr>
<tr>
<td>Miguel Perez Fontan</td>
<td>A Coruña</td>
</tr>
<tr>
<td>Beth M. Piraino</td>
<td>Pittsburgh, Pa.</td>
</tr>
<tr>
<td>Giuseppe Remuzzi</td>
<td>Bergamo</td>
</tr>
<tr>
<td>Miguel C. Riella</td>
<td>Curitiba</td>
</tr>
<tr>
<td>Bengt Rippe</td>
<td>Lund</td>
</tr>
<tr>
<td>Jean-Philippe Ryckelyn</td>
<td>Caen</td>
</tr>
<tr>
<td>Dirk G. Struijk</td>
<td>Amsterdam</td>
</tr>
<tr>
<td>Isaac Teitelbaum</td>
<td>Aurora, Colo.</td>
</tr>
<tr>
<td>Josep Teixido-Planas</td>
<td>Badalona</td>
</tr>
<tr>
<td>Wim Van Biesen</td>
<td>Ghent</td>
</tr>
<tr>
<td>Christian Verger</td>
<td>Pontoise</td>
</tr>
<tr>
<td>Enrico E. Verrina</td>
<td>Genoa</td>
</tr>
<tr>
<td>Janusz Witowski</td>
<td>Poznan</td>
</tr>
</tbody>
</table>

### Hemodialysis

<table>
<thead>
<tr>
<th>Name</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pedro Aljama</td>
<td>Cordoba</td>
</tr>
<tr>
<td>Stefano Bianchi</td>
<td>Arezzo</td>
</tr>
<tr>
<td>Prem K.G. Chandran</td>
<td>Des Moines, Iowa</td>
</tr>
<tr>
<td>John Collins</td>
<td>Auckland</td>
</tr>
<tr>
<td>Rosanna Coppo</td>
<td>Turin</td>
</tr>
<tr>
<td>Adrian A. Covic</td>
<td>Iasi</td>
</tr>
<tr>
<td>Mario Cozzolino</td>
<td>Milan</td>
</tr>
<tr>
<td>Angel M. de Francisco</td>
<td>Santander</td>
</tr>
<tr>
<td>Francesco Galli</td>
<td>Perugia</td>
</tr>
<tr>
<td>Victor Gura</td>
<td>Beverly Hills, Calif.</td>
</tr>
<tr>
<td>Stephan von Haeling</td>
<td>Berlin</td>
</tr>
<tr>
<td>Jørgen Hegbrant</td>
<td>Lund</td>
</tr>
<tr>
<td>Alp Ilkizler</td>
<td>Nashville, Tenn.</td>
</tr>
<tr>
<td>Hideki Kawanishi</td>
<td>Hiroshima</td>
</tr>
<tr>
<td>William F. Keane</td>
<td>Minneapolis, Minn.</td>
</tr>
<tr>
<td>John A. Kellum</td>
<td>Pittsburgh, Pa.</td>
</tr>
<tr>
<td>Peter Kotanko</td>
<td>New York, N.Y.</td>
</tr>
<tr>
<td>Martin K. Kuhlmann</td>
<td>Berlin</td>
</tr>
<tr>
<td>Nathan W. Levin</td>
<td>New York, N.Y.</td>
</tr>
<tr>
<td>Francesco Locatelli</td>
<td>Lecco</td>
</tr>
<tr>
<td>Peter McCullough</td>
<td>Novi, Mich.</td>
</tr>
<tr>
<td>Madhukar Misra</td>
<td>Columbia, Mo.</td>
</tr>
<tr>
<td>Allen R. Nissenson</td>
<td>Los Angeles, Calif.</td>
</tr>
<tr>
<td>Mark Okusa</td>
<td>Charlottesville, Va.</td>
</tr>
<tr>
<td>Vincenzo Panichi</td>
<td>Pisa</td>
</tr>
<tr>
<td>Mauro Pittiruti</td>
<td>Rome</td>
</tr>
<tr>
<td>Michael Rocco</td>
<td>Winston-Salem, N.C.</td>
</tr>
<tr>
<td>Antonio Santoro</td>
<td>Bologna</td>
</tr>
<tr>
<td>Daniel Schneditz</td>
<td>Graz</td>
</tr>
<tr>
<td>Sergio Stefoni</td>
<td>Bologna</td>
</tr>
<tr>
<td>Peter Stenvinkel</td>
<td>Stockholm</td>
</tr>
<tr>
<td>Andrea Stopper</td>
<td>Bad Homburg</td>
</tr>
<tr>
<td>Ciro Tetta</td>
<td>Bad Homburg</td>
</tr>
<tr>
<td>Angela Y. Wang</td>
<td>Hong Kong</td>
</tr>
<tr>
<td>Richard Ward</td>
<td>Louisville, Ky.</td>
</tr>
<tr>
<td>Dick de Zeeuw</td>
<td>Groningen</td>
</tr>
<tr>
<td>Robert Zietse</td>
<td>Rotterdam</td>
</tr>
<tr>
<td>Carmine Zoccali</td>
<td>Reggio Calabria</td>
</tr>
</tbody>
</table>

© 2015 S. Karger AG, Basel
Guidelines for Authors

Aims and Scope
Practical information on hemodialysis, hemofiltration, peritoneal dialysis and plasma filtration is featured in this journal. Recognizing the critical importance of equipment and procedures, particular emphasis has been placed on reports, drawn from a wide range of fields, describing technical advances and improvements in methodology. Papers reflect the search for cost-effective solutions which increase not only patient survival but also comfort through prevention or correction of undesirable effects. Advances in vascular access and blood anticoagulation, problems associated with exposure of blood to foreign surfaces and acute-care nephrology, including continuous therapies, also receive attention. Nephrologists, internists, intensivists and hospital staff involved in dialysis, apheresis and immunoadsorption for acute and chronic solid organ failure will find this journal useful and informative.

Submission
Manuscripts written in English are considered and should be submitted online at www.karger.com/bpu

Should you experience problems with your submission, please contact

Editorial Office ‘Blood Purification’
S. Karger AG
PO Box
CH-4009 Basel (Switzerland)
Tel. +41 61 306 1356
Fax +41 61 306 1434
E-Mail bpu@karger.com

Conditions
All manuscripts are subject to editorial review. Manuscripts are received with the explicit understanding that they are not under simultaneous consideration by any other publication. Submission of an article for publication implies transfer of the copyright from the author to the publisher upon acceptance. Accepted papers become the permanent property of Blood Purification and may not be reproduced by any means, in whole or in part, without the written consent of the publisher. It is the author's responsibility to obtain permission to reproduce illustrations, tables, etc. from other publications.

Conflicts of Interest
Authors are required to disclose any sponsorship or funding arrangements relating to their research and all authors should disclose any possible conflicts of interest. Conflict of interest statements will be published at the end of the article.

Ethics
Published research must comply with the guidelines for human studies and animal welfare regulations. Authors should state that subjects have given their informed consent and that the study protocol has been approved by the institute's committee on human research. Further, they should also state that animal experiments conform to institutional standards.

Categories of Manuscripts
(Word limits include tables, illustrations and references)

- **Original Papers** are full-length research papers which will be considered for the journal. Articles cover topics relevant to blood cleansing studies (max. 2,500 words).
- **In-Depth Reviews** are comprehensive, state-of-the-art papers (systematic reviews or meta-analyses) on important clinical problems of hemodialysis, hemofiltration, peritoneal dialysis and plasma filtration. In-Depth Reviews may be invited by the Editor or they may be unsolicited (max. 5,000 words), although in the latter, we ask the author to send the Editor a short outline first (300–400 words) to ensure that a review on a similar subject has not already been commissioned. Manuscripts will be assessed in-house and those judged suitable will be peer-reviewed before an editorial decision is made.
- **Editorials** are usually invited by the Editor (max. 1,000 words). Please send suggestions to the Editor.
- **Methods in Blood Purification** papers dealing with methodological issues in blood purification studies (e.g. recruitment, exclusion and inclusion criteria, methodological evaluation, novel approaches to clinical trials, statistical analyses and follow-up problems and solutions), particularly with regard to on-going large population-based studies, controlled clinical trials, cohort and case-control studies are welcome (max. 5,000 words).
- **Letters to the Editor and Opinions.** Manuscripts of max. 500 words, 1 figure or table and max. 10 references are considered for publication provided they describe a novel observation or add pertinent new information.

Arrangement
**Title page:** The first page of each paper should indicate the title, the authors’ names, the institute where the work was conducted, and a short title for use as running head.

**Full address:** The exact postal address of the corresponding author complete with postal code must be given at the bottom of the title page. Please also supply phone and fax numbers, as well as e-mail addresses.

**Key words:** Please supply 5–10 key words in English that reflect the content of the paper.

**Abstract:** Each paper needs an abstract in English of not more than 150 words. It should be structured as follows:
- **Background/ Aims:** What is the major problem that prompted the study?
- **Methods:** How was the study performed?
- **Results:** Most important findings?
- **Conclusion:** Most important conclusion?

**Abstract of In-Depth Reviews:** Should be divided into the following subsections: Background, Summary and Key Messages. The Background should provide a brief clinical context for the review and is followed by the Summary, which should include a concise description of the main topics covered in the text. The Key Messages encapsulate the main conclusions of the review.

Footnotes: Avoid footnotes.

Tables and illustrations: Tables and illustrations (both numbered in Arabic numerals) should be prepared on separate pages. Tables require a heading and figures a legend, also prepared on a separate page. For the reproduction of illustrations, only good drawings and figures can be accepted. Negatives or photocopies cannot be used. Due to technical reasons, figures with a screen background should not be submitted. When possible, group several illustrations in one block for reproduction (max. size 180 x 223 mm) or provide crop marks. Electronically submitted b/w half-tone and color illustrations must have a final resolution of 300 dpi after scaling, line drawings one of 800–1,200 dpi.

Color illustrations
**Online edition:** Color illustrations are reproduced in black and white. Please avoid referring to the colors in the text and figure legends.

**Print edition:** Up to 6 color illustrations per page can be integrated within the text at CHF 960.00 per page.

References: In the text identify references by Arabic numerals [in square brackets]. Material submitted for publication but not yet accepted should be noted as [unpublished data] and not be included in the reference list. The list of references should include only those publications which are cited in the text. Do not alphabetize; number references in the order in which they are first mentioned in the text. The surnames of the authors followed by initials should be given. There should be no punctuation other than a comma to separate the authors. Preferably, please cite all authors. Abbreviate journal names according to the Index Medicus system. Also see International Committee of Medical Journal Editors: Uniform requirements for manuscripts submitted to biomedical journals (www.icmje.org).

Examples

(b) Papers published only with DOI numbers: Theocharides TC, Boucher W, Spear K: Serum interleukin-6 reflects disease severity and osteoporosis in mastocytosis patients. Int Arch Allergy Immunol DOI: 10.1159/000063858.


Reference Management Software: Use of EndNote is recommended for easy management and formatting of citations and reference lists.

Digital Object Identifier (DOI)
S. Karger Publishers supports DOIs as unique identifiers for articles. A DOI number will be printed on the title page of each article. DOIs can be useful in the future for identifying and citing articles published

KARGER

© 2015 S. Karger AG, Basel

E-Mail karger@karger.com

www.karger.com

The Guidelines for Authors are available at:

www.karger.com/bpu_Guidelines
online without volume or issue information. More information can be found at www.doi.org.

Supplementary Material
Supplementary material is restricted to additional data that are not necessary for the scientific integrity and conclusions of the paper. Please note that all supplementary files will undergo editorial review and should be submitted together with the original manuscript. The Editors reserve the right to limit the scope and length of the supplementary material. Supplementary material must meet production quality standards for Web publication without the need for any modification or editing. In general, supplementary files should not exceed 10 Mb in size. All figures and tables should have titles and legends and all files should be supplied separately and named clearly. Acceptable files and formats are: Word or PDF files, Excel spreadsheets (only if the data cannot be converted properly to a PDF file), and video files (.mov, .avi, .mpeg).

Self-Archiving/Green Open Access
Karger permits authors to archive their pre-prints (i.e. pre-peer review) or post-prints (i.e. accepted manuscript after peer review but before production) on their personal or their institution’s internal website. In addition, authors may post their accepted manuscripts in public Open Access repositories and scientific networks (e.g. ResearchGate or Mendeley) no earlier than 12 months following publication of the final version of their article. For all self-archiving, the posted manuscripts must:
• Be used for noncommercial purposes only
• Be linked to the final version on www.karger.com
• Include the following statement:
  ‘This is the peer-reviewed but unedited manuscript version of the following article: [insert full citation, e.g. Cytogenet Genome Res 2014;142:227–238 (DOI: 10.1159/000361001)]. The final, published version is available at http://www.karger.com/?doi=[[insert DOI number]].’

It is the author’s responsibility to fulfill these requirements.

For papers published online first with a DOI number only, full citation details must be added as soon as the paper is published in its final version. This is important to ensure that citations can be credited to the article.

Supplemental manuscripts to be archived in PubMed Central due to funding requirements will be submitted by Karger on the author’s behalf [see Funding Organizations (NIH etc.)].

For self-archiving Author’s Choice™ (Gold Open Access) articles, see Author’s Choice™.

Author’s Choice™
Karger’s Author’s Choice™ service broadens the reach of your article and gives all users worldwide free and full access for reading, downloading and printing at www.karger.com. The option is available for a one-time fee of CHF 3,000.00, which is a permissible cost in grant allocation. More information can be found at www.karger.com/authors_choice.

The final, published version of the article may be posted at any time and in any repository or on other websites, in accordance with the relevant Creative Commons license. Reposted Open Access articles must:
• Follow the terms of the relevant Creative Commons license
• Be linked to the final version on www.karger.com
• Include the following statement:
  ‘The final, published version of this article is available at http://www.karger.com/?doi=[[insert DOI number]].’

It is the author’s responsibility to fulfill these requirements.

For papers published online first with a DOI number only, full citation details must be added as soon as the paper is published in its final version. This is important to ensure that citations can be credited to the article.

Funding Organizations (NIH etc.)
The U.S. National Institutes of Health (NIH) Public Access Policy mandates that accepted, peer-reviewed manuscripts are archived in its digital database, PubMed Central (PMC), within 12 months of the official publication date. As a service to authors, Karger submits NIH-funded articles to PMC on behalf of the authors immediately upon publication. The NIH assigns a PMCID within approximately 1 month and the manuscript will appear in PMC after a 12-month embargo. For authors making their paper Open Access through Author’s Choice™, the embargo will be overridden, thereby accelerating the accessibility of the article. Karger also complies with other funders’ requirements (including Wellcome Trust and RCUK) for submission to PMC. Authors should include information on their grants in the Acknowledgements section of their papers.
Especially in Italy, but also all over the world, people like to meet over a cappuccino to talk about things like sports or politics before rushing off for work. I would like to invite you to take a cappuccino with me and engage in a conversation on topical issues in nephrology. As part of the ‘Cappuccino with Claudio Ronco’ series, I will monthly select articles recently published in *Blood Purification* and complement them with an expert comment in the form of a short video posted on the YouTube channel of the International Renal Research Institute of Vicenza and on Karger.com.

Join the *Blood Purification* Journal Club and enjoy a Cappuccino with Claudio Ronco!
Contents

See the journal website for contents
The buttonhole method for the cannulation of the arteriovenous fistula was discovered more than 40 years ago and was soon adopted on a wide scale due to its obvious benefits of decreased puncture pain and extension of the life of the arteriovenous fistula. Following reports of complications such as a higher incidence of access-related infections, the method has lately been the subject of intense scrutiny; recent research has focused on the mechanisms of buttonhole access-related infections and newer techniques that may have bearing on the future use of the buttonhole method.

This book presents an easily accessible overview of information relevant to the subject, including history, benefits and the latest research results related to the buttonhole cannulation method. It aims to rekindle an awareness of the advantages of this method and to encourage a critical analysis of possible techniques to overcome current barriers that prevent a wider spread of the technique.

Contents

• History of the Buttonhole Technique: Misra, M.
• Buttonhole Tunnel Tract Creation with the BioHole® Buttonhole Device: King, J.
• Causes and Solutions of the Trampoline Effect: Miwa, M.; Ota, N.; Ando, C.; Miyazaki, Y.
• Relationship between Years Elapsed after Initial Buttonhole Cannulation and Frequency of Vascular Access-Related Infections: Toma, S.
• Long-Term Safety of Buttonhole Cannulation and Efficacy of Mupirocin Prophylaxis: Agarwal, A.; Nesrallah, G.
Selected contributions

- Vitamin D Treatment and Mortality in Chronic Kidney Disease: A Systematic Review and Meta-Analysis: Duranton, F.; Montpellier; Rodriguez-Ortiz, M.E.; Cordoba; Duny, Y.; Montpellier; Rodriguez, M.; Cordoba; Daures, J.-P.; Arliges, A.; Montpellier.

More information at www.karger.com/ajn

The American Journal of Nephrology is a peer-reviewed journal that focuses on timely topics in both basic science and clinical research. Papers are divided into several sections, including:

• Original reports, spanning clinical, basic and outcomes research
• In-depth topic reviews on specific topics selected by the Editor and Associate Editors
• Invited debates – selected on ‘hot topics’ determined by the editorial board

Responding to the ever increasing pace in research, the American Journal of Nephrology adheres to a very tight publication schedule: accepted papers appear online within 5–6 weeks of acceptance.
Medical Statistics has never been easier!

David E. Matthews
Vernon T. Farewell

Using and Understanding Medical Statistics
5th, revised and extended edition

The fifth revised edition of this highly successful book presents the most extensive enhancement since Using and Understanding Medical Statistics was first published 30 years ago. Without question, the single greatest change has been the inclusion of source code, together with selected output, for the award-winning, open-source, statistical package known as R. This innovation has enabled the authors to de-emphasize formulae and calculations, and let software do all of the 'heavy lifting'. This edition also introduces readers to several graphical statistical tools, such as Q-Q plots to check normality, residual plots for multiple regression models, funnel plots to detect publication bias in a meta-analysis and Bland-Altman plots for assessing agreement in clinical measurements. New examples that better serve the expository goals have been added to a half-dozen chapters. In addition, there are new sections describing exact confidence bands for the Kaplan-Meier estimator, as well as negative binomial and zero-inflated Poisson regression models for over-dispersed count data.

The end result is not only an excellent introduction to medical statistics, but also an invaluable reference for every discerning reader of medical research literature.

Contents
Preface to the Fifth Edition
Prefaces to the Previous Editions
• Basic Concepts
• Tests of Significance
• Fisher’s Test for 2 × 2 Contingency Tables
• Approximate Significance Tests for Contingency Tables
• Some Warnings concerning 2 × 2 Tables
• Kaplan-Meier or ‘Actuarial’ Survival Curves
• The Log-Rank or Mantel-Haenszel Test for Comparing Survival Curves
• An Introduction to the Normal Distribution
• Analyzing Normally Distributed Data
• Linear Regression Models for Medical Data
• Binary Logistic Regression
• Regression Models for Count Data
• Proportional Hazards Regression
• The Analysis of Longitudinal Data
• Analysis of Variance
• Data Analysis
• The Question of Sample Size
• The Design of Clinical Trials
• Further Comments regarding Clinical Trials
• Meta-Analysis
• Epidemiological Applications
• Diagnostic Tests
• Agreement and Reliability

References
Subject Index

Matthews, D.E. (Waterloo, Ont.); Farewell, V.T. (Cambridge)
Using and Understanding Medical Statistics
5th, revised and extended edition
XX + 338 p., 48 fig., 103 tab., 2015
CHF 49.00 / EUR 46.00 / USD 54.00
(hard cover + online supplementary material)
Online version for institutional purchase
Prices subject to change. VAT not included
EUR price for eurozone countries, USD price for USA and Latin America only
(hard cover + online supplementary material)

VitalSource

Google play

Amazon

Dear Librarian
I have reviewed this publication and would like to recommend it for our library.
Recommended by:

Department:

Date:

Signature:

Orders may be placed with any bookshop, subscription agency, directly with the publisher or through a Karger distributor.

Karger – Medical and Scientific Publishers
CH–4009 Basel, Switzerland
orders@karger.com, f +41 61 306 12 34
www.karger.com

The easiest way to order: www.karger.com/medical_statistics

sher.test(tuberculosis)

Fisher’s Exact Test for Count Data
data: tuberculosis
p-value=0.008993

Pr(Y=1 | X=x) = exp(a + bx)

1 + exp(a + bx)

T = (O_1 - E_1)^2 / E_1 + (O_2 - E_2)^2 / E_2

Ki15406

Downloaded by: 54.70.40.11 - 11/26/2017 10:02:41 AM
Current Progress in Renal Replacement Therapy
A Global Contribution from the Japanese Society for Dialysis Therapy