also immediately introduces the reader to
the importance of ethics in doing research
(Chapter 2), and gives a brief overview of
outcomes research (Chapter 3). Clinicians
and others who are contemplating possible
research projects need to be aware of ethi-
cal constraints when gathering data on hu-
man subjects. Many practitioners are not
aware that proposed research involving hu-
man subjects must be reviewed by institu-
tional review boards and that informed con-
sent may be needed from recruited subjects.
Table 3–1 provides a very helpful compar-
ison and contrast of the differences between
traditional clinical research and outcomes
research. The first contrast given in the ta-
ble shows the relevance and necessity of
outcomes research in today’s clinical cli-
nate: traditional clinical research is disease-
centered, whereas outcomes research is pa-
tient- and community-centered.

Section II has chapters on the scientific
method (Chapter 4), developing the study
idea (Chapter 5), reviewing the literature
(Chapter 6), and designing the experiment
(Chapter 7). By putting the key components
of the research process in a section entitled
“Planning the Study,” the text drives home
the point that a study should be completely
planned before any implementation is at-
ttempted.

Section III begins with a chapter on im-
plementing the study (Chapter 8), which fur-
ther serves to highlight the difference be-
tween the detailed and extensive planning
needed and the actual performance of the
study plan. This section also includes a chap-
ter on measurement (Chapter 9), which I
think could be improved in a future edition.
The properties of measurement, namely ac-
curacy (validity) and precision (reliability),
are well explained, with ample applications
given. However, there is only indirect ma-
terial on how to estimate the accuracy and
precision of measurement instruments. The
discussion is also limited to physical meth-
ods of data collection, with no consider-
atation of other measurement methods such
as surveys, questionnaires, or tests, which
are used in some respiratory care research.
Methods of estimating accuracy and preci-
sion (as opposed to interpreting statements
about accuracy) are lacking, especially for
nonphysical methods of data collection.

Section IV offers a fine compilation and
explanation of statistical techniques. This
section opens with an overview of basic sta-
tistical concepts, including measures of de-
scriptive statistics and concepts of inferen-
tial statistics, such as confidence intervals
and hypothesis testing (Chapter 10). In
Chapters 11, 12, and 13 specific statistical
techniques/tests are given for nominal lev-
els of measure, ordinal levels, and continu-
ous, or interval, measures. By organizing
statistical techniques into chapters based on
levels of measurement, one of the major
factors determining appropriateness of a sta-
tistical analysis is built into the chapter di-
visions. This may be one of the true contrib-
utions of the text. It should also be noted
that characteristics of screening tests, such
as false positives, sensitivity and specific-
city, and receiver operating characteristic
curves to evaluate the efficiency of diag-
nostic tests, are clearly presented in Chapter
11, in the section on statistics for nominal
measures. These statistical techniques are
not typically found in courses on introduc-
tory classical statistics.

The last section will be particularly help-
ful for those who are just beginning to sys-
tematically collect observations and wish to
find out how to share their results with oth-
ers in a public forum such as a peer-re-
viewed journal or an abstract and poster ses-
sion. In the “Publishing the Findings” section
there is also a chapter on preparing a case
report. As noted by the author, case studies
represent legitimate clinical research and of-
fers an opportunity for respiratory care prac-
titioners to participate in research and pub-
lication when it is not feasible to perform or
participate in full-scale clinical or labora-
tory studies. The chapter includes excellent
detail on what constitutes a reportable case
study and how to go about organizing and
writing the case study. The identification of
the elements of a patient case study, given
in logical order, is not only useful for pub-
lishing a case report; it also applies to any
case study in the clinical site. Included is a
table that lists 12 common mistakes made
by authors of case reports, which will be
very helpful for prospective authors to iden-
tify what should and should not be done in
preparing a case report for possible publi-
cation.

There are 6 appendices, including a glos-
sary, a checklist for peer review of papers
useful in reviewing one’s own manuscript
before submission, a complete model pa-
paper, a sample response to reviewers of the
model paper, answers to questions in each
of the chapters, and a flow chart to assist
with selection of appropriate statistical tech-
niques. The model paper is a complete manu-
script presented in typed format as it would
be submitted to a journal. This will be ex-
tremely helpful to those who are not sure
how to actually prepare a paper with all of
its elements, such as tables and figures, for
submission to a journal as a typed manu-
script. The model paper would be equally
useful for educational programs in which
students are assigned papers for writing.
Many writers make the mistake of trying to
do “desktop publishing,” meaning attempt-
ing to prepare the manuscript as it would
look in print, with tables and figures incor-
porated into the text.

After reviewing this nicely done text from
Robert Chatburn, I highly recommend it to
practicing clinicians in respiratory care as
well as other health care providers, includ-
ing medical students, some of whom struggle
with these concepts. This book will be
especially beneficial and a unique resource
for faculty and students in respiratory care
programs. Respiratory therapy now has a
current text on research methodology.

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Blood Collection in Healthcare. Majorie
Schaub Di Lorenzo MT SH and Susan King
Strasinger DA MT. Philadelphia: FA Davis.
2002. Soft cover, illustrated, 98 pages,
$19.95.

As a nurse who teaches venipuncture
skills to other nurses, I looked forward to
reading Blood Collection in Healthcare by
Majorie Schaub Di Lorenzo and Susan King
Strasinger. A postscript to the title states
that the text is designed to be used for a
short course. I think it would be best used in
the classroom setting, with an experienced
instructor, and not as an independent study
text.

The authors provide some excellent tools
for teaching a venipuncture course or class.
Some of the teaching tools made available
include a Microsoft PowerPoint presenta-
tion (which I did not review), information
on obtaining teaching videos from product
vendors, detailed lecture outlines, unit quiz-
zes, and a comprehensive exam with the
answers included. Some of the unit exer-
cises include detailed, step-by-step guides
that could be used as a skills or competency
check-off evaluation. The inside front and
back covers of this paperback text have a
Vacutainer blood draw tube guide that in-
cludes color pictures of laboratory tube tops,
additives, and general laboratory informa-
Though instruction on skin preparation for arterial blood gas sampling is provided, the actual steps in drawing arterial blood samples were beyond the scope of the book. The authors noted, “only specifically trained personnel must perform arterial punctures.”

Throughout the book emphasis is placed on clinician safety and obtaining an undiluted blood sample. The book includes pictures and information on needle safety devices and describes other safety equipment used during a blood draw. Instruction on correctly obtaining timed specimens, laboratory tests that require unusual handling procedures, and avoiding sample contamination are discussed in several places in the book.

My bias as a nurse probably relates to my only dissatisfaction with the book. The student phlebotomist is told to avoid, if possible, the extremity that has an intravenous fluid infusing. If there are no other options, the authors recommend stopping the intravenous infusion for 2–5 min (depending on whether the line is peripheral or central) before drawing the blood sample. I appreciate and acknowledge the need to obtain an uncontaminated blood sample, but as a nurse I would want to be notified before my patient’s intravenous infusion was stopped, because stopping the infusion could disrupt critical medication delivery or cause a loss of intravenous access. I’d also want to double-check that the infusion was restarted and running correctly once the blood draw was completed. I doubt the authors intended that instruction to be carried out independently of other services, but communication cannot be assumed, so the book should have stated that it is necessary to consult with the patient’s nurse or physician prior to stopping an intravenous infusion, to avoid any possible misconception.

Learning the correct tube, minimum volume of blood required, and specific handling instructions for the variety of laboratory tests available can be a time-consuming process. Nothing is worse than completing a difficult draw and either not filling the correct laboratory tube or not having the required blood volume—common problems when learning. The appendices include lists of laboratory tests, with specific requirements, such as the color of the collection tube, minimum amount of blood required, special instructions such as “place on ice” or “protect from light,” and clinical correlation of laboratory tests to body systems. One appendix has information relating to care of peripheral, central, and arterial lines, including procedural information such as when to change intravenous tubing, flush protocols, dressing changes, total parental nutrition tubing changes, the use of intravenous fat filters, and secondary tubing changes. I have to admit I did not see the relevance of the information in this appendix to blood drawing. The guidelines given are somewhat institution-specific and may be beyond the scope of practice for the novice phlebotomist.

Throughout the book the authors inserted notations to highlight important points and offer insights about phlebotomy. I found these technical tips useful and looked forward to reading them. I noticed no typographical mistakes. There were a few instances of terms being used incorrectly; for instance, one passage refers to donning clean gloves in the patient’s presence to reassure the patient that “sterility” (versus “cleanliness”) is being maintained. Throughout the book, the pictures of equipment and techniques are informative and useful. The book is relatively inexpensive for a textbook ($19.95), and wears well; my copy looks almost new after being carried for several months in my briefcase. I liked the book best for the many teaching tools it provided, and I will probably be using some of them in my next class.

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