
Sputum induction has been used for decades to aid in the diagnosis of pulmonary infections. This has proven particularly useful for identifying tuberculosis or Pneumocystis carinii. Over the past 15 years the evaluation of induced sputum for cells, soluble mediators, and biophysical and transport properties has become a useful research tool for enhancing our understanding of chronic airway diseases such as asthma, cystic fibrosis, and chronic bronchitis.

Djukanovic and Sterk have collected some of those data in a handsomely illustrated atlas intended for pulmonary researchers. The book is generally well organized, but there are large gaps in the material presented, as well as a substantial amount of redundant material. The emphasis is on the evaluation of cells and soluble mediators in sputum, and the book completely ignores the important field of research related to the measurement of the biophysical properties of airway secretions and sputum clearability, which limits the usefulness of this text.

The authors also failed to discuss the relationship between the assessment of mediators in sputum and in other airway samples such as breath condensate.

Chapter 1 discusses techniques for sputum induction using saline inhalation. The authors summarize published guidelines, but they do not discuss alternative techniques for sputum induction such as the inhalation of other hyperosmolar agents, for example, dry powder mannitol, inhalation of ion channel modifiers such as UTP or P2Y2 activators, or the role of chest physical therapy or high-frequency chest wall oscillation. The authors state that ultrasonic nebulization is more effective for sputum induction, but they do not provide data to support that contention. They also briefly mention that salivary contamination should be avoided, but they do not discuss some of the more common techniques for reducing salivary contamination, such as the use of dental dams. Alternative methods for sputum collection, for example, via bronchoscopy or endotracheal tube, are not mentioned. The authors discuss the use of β agonists as beneficial in preventing airway hyperresponsiveness, but they do not explain that β agonists alter the composition and properties of the secretions.

Chapter 2 gives the first of many references to the role of eosinophils in the airway. This topic is also discussed in Chapters 4, 6, and 9, with substantial content overlap. The authors adequately discuss the role of the cellular composition of secretions, but there are several errors. It is stated that lipid-laden macrophages are markers of gastroesophageal reflux, but that is only true if there is aspiration. In children it is more likely that aspiration is due to swallowing difficulties (palatopharyngeal dyskinesia) than to gastroesophageal reflux. The authors also state that a lipid index of > 7 is considered diagnostic of reflux or aspiration. That number should be 70, as indicated in Chapter 10. Also, the authors do not discuss how the eosinophil content of induced sputum can be modified if the patient is taking corticosteroids.

Chapters 4–7, which deal with specific diseases and patient populations, are well written. Further to the lack of regard for evaluation of the properties of secretions is the common mistake made in Chapter 7, where it is stated that cystic fibrosis secretions are viscous and that there is an increased amount of mucin in the cystic fibrosis airway. Both of those assertions are incorrect.

Chapter 10 is one of the most useful and well written chapters in the book. It discusses interstitial lung disease and occupational lung disease, and the micrographs are beautiful illustrations, as one would expect in an atlas.

Sputum induction is now used long-term for cystic fibrosis therapy in some parts of the world, and, to be comprehensive, a text such as this should summarize that use.

Sputum induction is an important topic, and this atlas makes an attempt at presenting the subject; unfortunately, there are many gaps and the authors failed to include critically important topics, which severely limits the value of the book. Most of the illustrations are graphs of data, and they provide limited information. The majority of the graphs could be eliminated and discussed either in the text or in tables, leaving room for more useful micrographs, as in Chapter 10.

Bruce K Rubin MEngr MD FAARC Department of Pediatrics Department of Biomedical Engineering Department of Physiology and Pharmacology Wake Forest University Winston-Salem, North Carolina


Thomas F Plaut’s One Minute Asthma: What You Need To Know, 6th edition, presents simple information on asthma management for those uninitiated in the complexities of the disease. The book is similar to other lay health texts in that it presents materials in a concise, readable form while limiting jargon and detail unnecessary for the lay reader. It begins with a brief description of the pathophysiology of asthma and links that to the effects of environmental triggers on airway inflammation. The second section concerns peak flow monitoring. The third section emphasizes the importance of symptom recognition and disease management with asthma management plans. Plaut briefly works through the familiar and the unfamiliar asthma medications in the fourth section, and he dovetails that neatly with the fifth section, which is on inhalation devices. He concludes with a very brief list of resources for further study.

Though One Minute Asthma is certainly not a book you can read in a minute (it took me around 30 minutes to read), it is intended as a quick study for the new asthma patient. Physicians and respiratory therapists will find it useful only as a tool for beginning a patient’s asthma education. In Plaut’s words, “Patients can read a few pages in your waiting room.” His style is nonthreatening and intended to motivate the patient to, “work out a clear, zone-based action plan [with your doctor] for treating your asthma.
at home.” He repeats messages throughout
the booklet, to emphasize the benefits of
control and exercise, and includes 4 folksy
“Asthma Stories” intended as fables to mor-
alize key aspects of asthma management. I
am reminded of reading such proverbs in
volumes of Reader’s Digest while waiting for
a dental check-up, and I doubt this ap-
proach will connect with a younger audi-
ence more sensitized to reality television and
Web-based media.

I recall meeting Dr Plaut at a recent
asthma conference and being impressed by
his passion and enthusiasm about the sub-
ject. He was adamant that I not just take his
One Minute Asthma for free until I listed-
to his talk on asthma management. In
an absurd way, I was reminded of the tech-
niques of vendors of “miracle cures.” While
I listened, I realized that his approach to
education is at times so singular that he risks
missing out on the contributions of others.
This is evident in the very difficult set of
asthma management tools he presents in
One Minute Asthma. These tools, which
outline Plaut’s own unique system for symp-
tom scoring and asthma management plan-
ning, are difficult to read and follow. The
National Asthma Education and Prevention
Program expert panel Asthma Guideline Up-
date report (2002) was inconclusive on the
relative benefits of a symptom scoring plan
versus a peak flow monitoring plan, and it
recommended a written plan, negotiated be-
tween patient and provider as one means to
improve asthma self-management.

What is unfortunate is that Plaut’s asthma
management plan differs from all others I
have seen in that the yellow zone is broken
into 2 sub-zones: high yellow and low yel-
low. Plaut’s rationale for that is that there
are times when the risk is mild (high yel-
low) for a patient in the yellow zone and
times when the risk is moderate (low yel-
low), indicating a need for a different course
of pre-planned action. This appears overly
cumbersome and not necessarily transfer-
able with other, simpler asthma manage-
ment plans. The complexity of Plaut’s high-
yellow/low-yellow system is inconsistent with
the style and nature of the rest of the
book.

I was similarly disappointed by the re-
sources section. The only resource men-
tioned that is not a Plaut product was the
National Asthma Education and Prevention
Program. I find this revealing about what
little Plaut may know—or have an interest
in knowing—about the many valuable, time-
saving, well developed, and free products
there are available to patients at other gov-
ernmental, corporate, and nonprofit-agency
Web sites.

Asthma prevention is a constantly evolv-
ing practice, and I salute Dr Plaut for con-
tinuing to update and improve this guide into a 6th edition. One of the booklet’s short-
comings is that some recent developments in
asthma treatment do not appear in this
edition, such as anti-immunoglobulin E ther-
apies for certain patient groups, and newer
combination therapies. Additionally, I did
not find any rationale mentioned for the abs-
ence of information on allergy testing and
other alternative and complementary thera-
pies that patients will probably encounter.

One Minute Asthma remains a valu-
able, well-informed read. Plaut’s explana-
tions are clear and concise, and the illustra-
tions (by Carla Brennan) are well-crafted
and accurate. It is fortunate that the book is
 pocket-sized, because practitioners can carry
it with them in preparation for that “teach-
able moment” that becomes the one minute
spent with asthma.

Robin A Evans-Agnew RN MN
Program Development
American Lung Association of
Washington
Seattle, Washington

Asthma: Social and Psychological Fac-
tors and Psychosomatic Syndromes. E
Sherwood Brown, editor. (Advances in Psy-
chosomatic Medicine series, volume 24, TN
Wise, series editor). Basel, Switzerland: S
Karger. 2003. Hard cover, illustrated, 171
pages, $137.50.

With increasing interest in the mind/body
interface, this recent book on psychobiolog-
ical aspects of asthma is timely and thought-
provoking. The book’s 10 chapters cover
topics such as: the epidemiology of asthma;
the epidemiology of comorbid anxiety and
depression with asthma; psychological syn-
dromes that mimic asthma; a historical over-
view of psychosomatic approaches to and
models of asthma; symptom perception; ad-
herence and behavioral change models; and
an integration of family factors, individual
responses to emotions and stress, and asthma
outcome. Taken as a whole, the book is a
refreshing critique of the reductionist and
simpistic approach to asthma as a purely
physiological illness that requires only med-
ications. Instead it presents the rich inter-
play of cognitions, behaviors, emotions, and
social and environmental climate that reg-
ulate this perplexing syndrome. Readers may
well find the conceptual models presented
in certain chapters helpful from a clinical
and teaching perspective and to organize
future research questions.

The first chapter gives a good overview
of the epidemiology of modern asthma. Mor-
gan and Khan show how prevalence and
mortality increased over the past 2 decades,
perhaps peaking in the late 1990s, despite
excellent models of pathophysiology and
new and better medications. The recent
improvement in those rates may be due to bet-
ter understanding of some of the quality-of-
life issues, including the psychosocial
context in which asthma presents.

Following that introduction, Gregerson
presents an organizing system, the “synchron-
ous systems model,” whereby the patient’s
illness is examined from the perspective of a
“2×2” interaction: both the internal and
external world; both psychological and bi-
ological approaches. To understand an in-
dividual’s asthma, one needs to look at the
person’s psychological makeup, physiologic
vulnerability, social environment, and phys-
cal environment. The internal physiologic
system is being well researched via genet-
ics, neurophysiologic and immune mecha-
nisms, and medications, but the prevalence
and morbidity of asthma continued to in-
crease, leading to research on the external
physical environment, such as the hygiene
hypothesis. This book emphasizes the other
2 critical areas: internal psychology and ex-
ternal social interactions.

For example, Goodwin presents an over-
view of evidence for the higher prevalence
of anxiety in patients with asthma and dis-
cusses some of the possible mechanisms.
Zielinski and Brown discuss the inconsis-
tencies among studies on rates of depres-
sion in patients with asthma. Though in chil-
dren depression was associated with higher
asthma severity, the same was not true in
some of the studies of adults. They entertain
the hypothesis that depression may be asso-
ciated with nonadherence to medications,
which would cause poorer asthma outcome,
rather than having a direct effect. However,
they also present several hypotheses about a
shared biologic vulnerability to both depres-
sion and asthma (eg, cholinergic or neu-
roendocrine dysregulation). They point out
that the few published studies of antidepress-
ants for asthma patients showed improve-
The One Minute Asthma book provides all the necessary components to learn how to manage asthma. It covers information about medicines, peak flows, peak flow diaries and triggers. It also covers the different ways that asthma medicines are given.

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