

Digital Book Production

Standardization is Key



Melissa Dillon

Workflow/Process Manager, Global Electronic Operations—Books

Challenges

- Meeting market needs for electronic products.
- Creating designs that provide high-quality print books and high-quality electronic products.
- Understanding the relationship between design and platform rendering.
- Acknowledging the limitations of e-workflows.
- Recognizing that content needs to be available in numerous file formats.
- Increasing efficiency to make content quickly available to markets.

Design is Critical

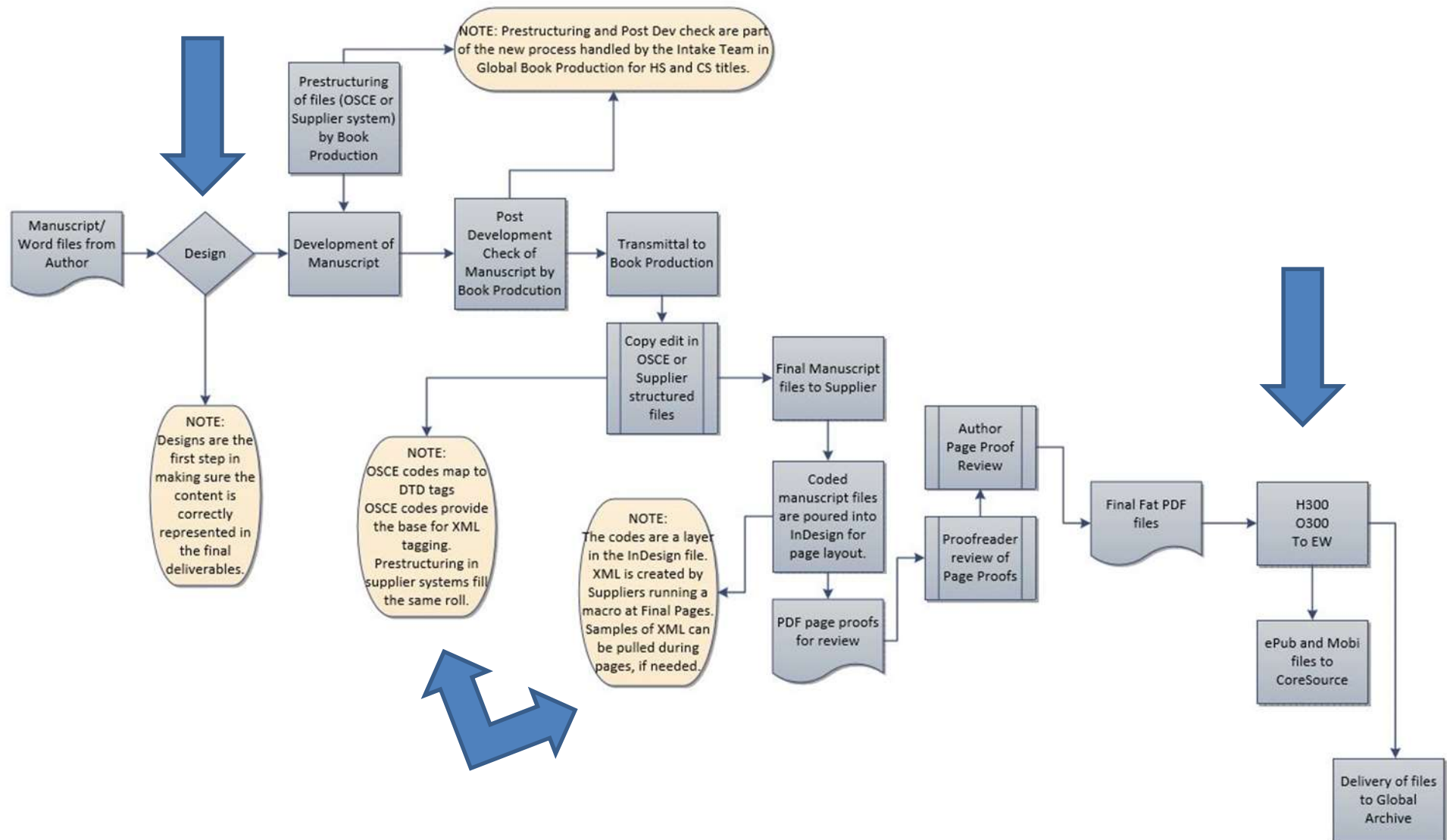
Need to find a balanced aesthetic solution for print to electronic.

- The design process needs to be linked directly to the development of content and incorporate *all* elements.
- The challenge is to create a design that will carry through to the EPUB and Mobi files to give the best viewing experience on all readers.
- It is important to consistently style elements (headings, boxes, tables) so they will render the same when the CSS is applied.
- The CSS (Cascading Style Sheet) controls the aesthetics and how the content will render in the eBook and on platforms.

eBook limitations for designing content must be considered to retain the overall style structure for digital formats. Limitations include:

- Content being displayed in single column format.
- Content is reflowable based on device and user settings.
- End users choosing font and adjusting size of font on readers.

High-Level Production Workflow



Pathway to XML and ePub



CHAPTER ELEMENTS	
Chapters open recto or verso. Set drop folio, no running head. Chapters alternate (ch.2), F1 (ch.3), D1 (ch.4), B1 (ch.5), E1 (ch.6) and repeat as necessary.	
Pages may be made up out of order. When this is the case, any chapter that but chapters following in sequence should be handled as directed in the special order make up should remain as is unless a change is specifically requested.	
Graphic:	Top trim bar: 51p wide x 3p3 deep, flush to top color.
Chapter picture square:	Set color picture 12p8 w stroke prints 100% chap color 2. (C2, A2, F2, D2 fit within square). Set square on a 1p indent from left with "Chap color/number" to indicate usage, register.
Circle:	Create a 8p11 width x 8p7 depth circle, fill white. Center circle inside of square.
chap num	65/70 Sabon Roman, -25 Tracking, prints chapter number
Chapter title and chapter author set within a 30p8 wide text box. This text box margin on verso pages.	
chap title	15/17 ITC Avant Garde Gothic Demi, MWU, flush left below top margin to base of first line of title.
chap au	11/18 ITC Avant Garde Gothic Medium, MWU, chapter title. Separate multiple authors with an ampersand.

Design

Syed A. Hoda	
Abstract	
An understanding of the embryology and "normal" anatomy of the breast is crucial for the study of diseases that affect the organ. This is the first text to provide a comprehensive overview of the breast's anatomy and physiology.	
Keywords	
Breast anatomy, Development	
Normal Breast	
Embryology	
Gross Anatomy	
Structure and Histology	
Vascular Supply	
Lymphatic Drainage	
Lymphatic System and Regional Lymph Nodes	
Hormonal Regulation	
Pregnancy, Lactation, and Milk	
Milk Production	
Developmental Disorders	
Anaplasia	
Hypertrophy	
Polymastia	
Supernumerary Nipple	
Abnormal Breast Tissue	
Macromastia	
Other Disorders of the Breast	
Summary	
Normal Breast	
The breasts are the distinguishing feature of mammals and have evolved as milk-producing organs to provide appropriate nourishment to their offspring. Indeed, the word <i>mammal</i> itself is derived from <i>mamma</i> which is the Latin term for breast. There are other purported benefits of nursing. Physiologically, this act serves to help involute the uterus; and psychologically, it helps to "bond" the mother and the offspring. Other than the aforementioned functions of the breast, its epigamic value cannot be overemphasized.	
Embryology	
Breast development in utero starts in the first trimester of gestation with formation of bilateral ridges of the ectoderm on the ventral aspect of the fetus. These thickened ridges extend in a linear manner from the axilla to the groin, forming the so-called milk line (Fig. 1.1). As fetal development proceeds, all except a pair of these thickenings, one on each side of the pectoral region, regress. ²⁻⁵	

ePub

<chap num>1	
<chap title>Normal Breast and Developmental Disorders	
<chap au>Syed A. Hoda	
<1 hd>NORMAL BREAST	
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Manuscript

552	<ce para id="p0080">Principles of Therapy</ce para>
553	</ce list-item>
554	<ce list-item id="l0120">
555	<ce para id="p0090">Summary</ce para>
556	</ce list-item>
557	</ce list>
558	</outline>
559	<ce sections>
560	<ce para id="p0100">Unresolved issues remain with respect to the recognition and management of breast cancer. Further research is needed to improve our understanding of the pathogenesis and consequences for the immature brain. Diagnostic and postnatal contributions to neonatal seizures in the neonate, with or without the exposure to antiepileptics, and the continuum of anatomically specific brain injury and epilepsy.
561	<ce section id="s0010">
562	<ce section id="s0010">INTRODUCTION</ce section id="s0010">
563	<ce para id="p0110">Basic issues still remain regarding the recognition and management of breast cancer. Further research is needed to improve our understanding of the pathogenesis and consequences for the immature brain. Diagnostic and postnatal contributions to neonatal seizures in the neonate, with or without the exposure to antiepileptics, and the continuum of anatomically specific brain injury and epilepsy.
564	<ce cross-ref id="x0010">
	<ce float-anchor ref="p0100">Who and how to treat newborns with seizures. While clinical seizures remain a common occurrence in neonatal intensive care, the incidence of seizures may be even higher. Yet the diagnosis and management of neonatal seizures remains a challenge. This chapter reviews the current understanding of the pathogenesis and consequences for the immature brain. Diagnostic and postnatal contributions to neonatal seizures in the neonate, with or without the exposure to antiepileptics, and the continuum of anatomically specific brain injury and epilepsy.

XML

Normal Breast and Developmental Disorders	
Syed A. Hoda	
1	
Normal Breast 1	
Embryology 1	
Gross Anatomy 1	
Structure and Histology 3	
Vascular Supply 11	
Lymphatic Drainage 13	
Lymphatic System and Regional Lymph Nodes 14	
Hormonal Regulation 15	
Pregnancy, Lactation, and Milk 16	
Milk Production 18	
Developmental Disorders 18	
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Gross Anatomy	
The female breasts are rounded protuberances on either side of the anterior chest wall. The organ is situated just below the level of the axilla. A "pit" is the epidermal form at the convergence of the major (lactiferous) ducts, and shortly thereafter, its eversion forms the protruding nipple (Fig. 1.2). ⁶ Rarely, the nipple may not evert, resulting in an inverted (or permanently retracted) nipple. This deformity may cause considerable difficulty in suckling.	

PDF page proof

Print-Only, Shared, and E-Only Content

Print-Only Content

- Content is coded in the XML
- Appears only in the printed version

Shared Content

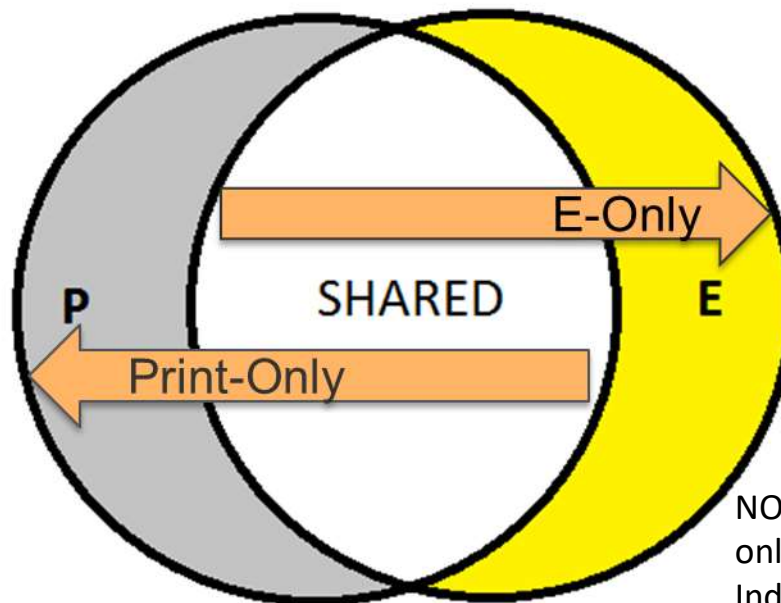
- Content is coded in the XML
- Appears in both print and electronic versions

E-Only Content

- Content is coded in the XML
- Appears only in electronic versions, such as eBook/ePub and on platforms

“Supplemental” Files

- Content is not coded in the XML
- It will not appear in most electronic versions, such as ePub/eBook or on most platforms
- ScienceDirect and ExpertConsult can display files



NOTE: The smallest item for print-only or e-only is a paragraph. Individual sentences within a paragraph cannot have an attribute different than the entire paragraph. (There can be a one sentence paragraph...)

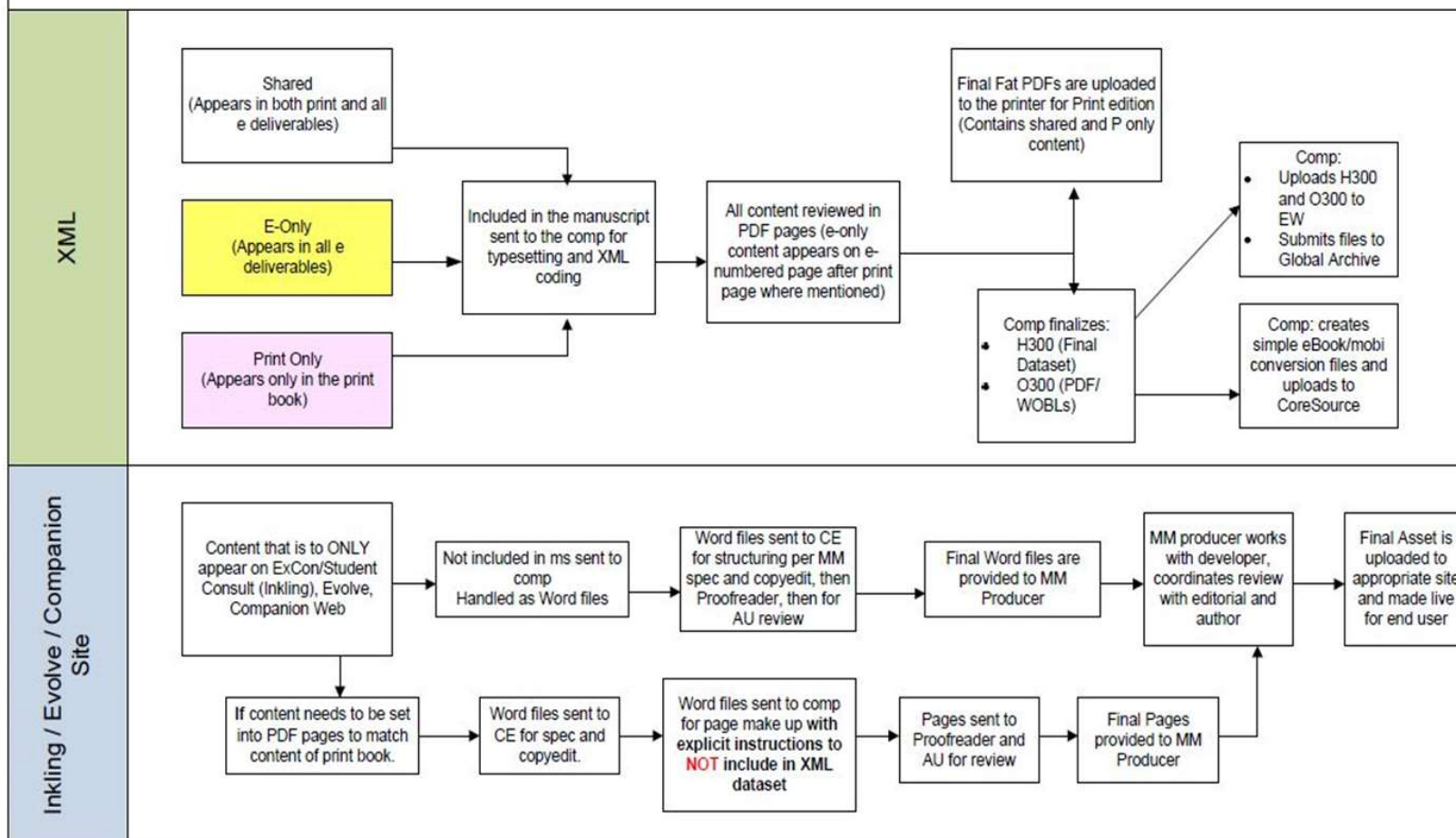
Example of Supplemental Content



Interactive map available on ScienceDirect. Users can click on each point to access additional information regarding that location.

Other examples are very large tables in Excel that would not render well in the print or electronic layout.

Handling e-Only/e-Extra Content in Manuscript



XML

What information does the XML carry?

Limited Styling – only bold, italic, cross out, underline, small caps, sub/superscript

Fonts – serif, sanserif or monospace

Punctuation

Hierarchy

Downstream versioning (e-only, p-only, shared content)

What information does XML **not** carry?

Color

Font size

Particular fonts (for example: Times, Arial, Helvetica, etc.)

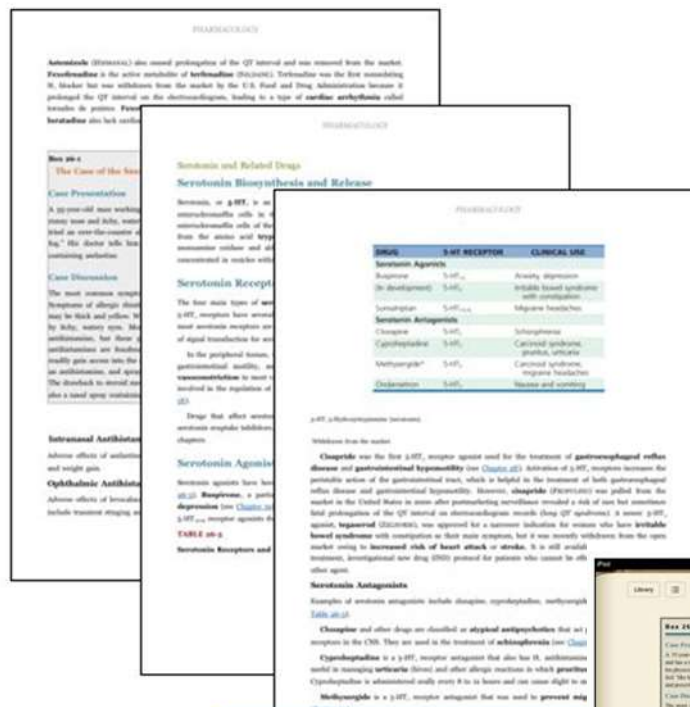
Highlighting

Positioning – left, right, center, justified

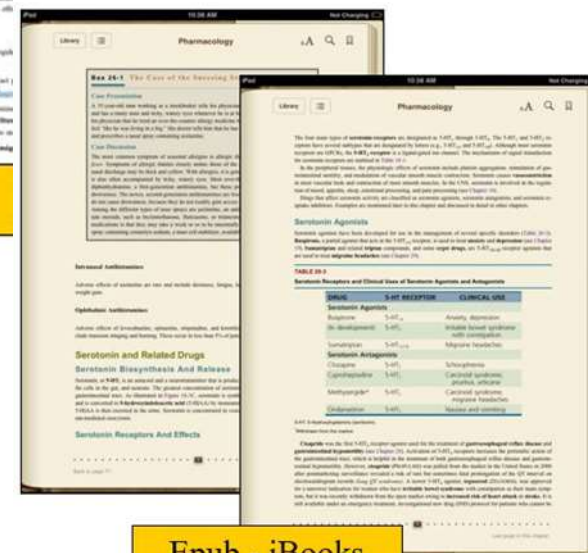
Print versus eBooks



Print



Mobi- Kindle



Epub - iBooks

Electronic Table of Contents



The table of contents in an eBook is generated from the XML hub file. Thus there are no page numbers.

Instead the chapter title is hyperlinked and will take the user directly to the location in the file.

The screenshot shows a digital interface for a book titled "Water Quality Indices". The "TABLE OF CONTENTS" section lists the following items:

- Cover Image
- Title
- Copyright
- Dedicated to
- Foreword
- PART I. Water Quality Indices Based Predominantly on Physico-chemical Characteristics
- Chapter 1. Why Water-Quality Indices
 - 1.1 Introduction
 - 1.2 Water-Quality Indices (WQIS)
 - 1.3 Back to Water-Quality Indices (WQIS)
 - 1.4 The First Modern WQI: Horton's Index
 - 1.5 More on the Benefits of WQI
 - 1.6 WQIs Based on Bioassessment
- Chapter 2. Approaches to WQI Formulation
 - 2.1 Introduction

At the bottom, it indicates "0 of 991" pages and "1.3 pages left in this chapter".

The screenshot shows a digital interface for a book titled "CLINICAL GASTROINTESTINAL ENDOSCOPY". The "TABLE OF CONTENTS" section lists the following items:

- Chapter 8: Patient Preparation and Pharmacotherapeutic Considerations
- Chapter 9: Reporting, Documentation, and Risk Management
- Chapter 10: Small-Caliber Endoscopy
- Chapter 11: Postsurgical Endoscopic Anatomy
- Section II: Luminal Gastrointestinal Disorders
- Part I: Benign Disorders
 - Chapter 12: Nonvariceal Upper Gastrointestinal Bleeding
 - Chapter 13: Portal Hypertensive Bleeding
 - Chapter 14: Lower Gastrointestinal Bleeding
 - Chapter 15: Obscure Gastrointestinal Bleeding
 - Chapter 16: Chronic Gastrointestinal Bleeding
 - Chapter 17: Benign Strictures
 - Chapter 18: Achalasia
 - Chapter 19: Ingested Foreign Objects and Food Bolus Impactions
 - Chapter 20: Zenker's Diverticula
 - Chapter 21: Inflammatory Bowel Disease
- Part II: Neoplastic Disorders
 - Chapter 22: Infections of the Luminal Digestive Tract

To maintain the hierarchy of the table of contents, make sure the content is consistently set up throughout the title.

Example of Part Opener

<p>SECTION 3 • DRUGS AFFECTING MAJOR ORGAN SYSTEMS</p> <h2>21 The heart</h2> <p>OVERVIEW</p> <p>In this chapter, we review briefly the physiology of cardiac function in terms of electrophysiology, of contraction, of oxygen consumption and coronary blood flow, of autonomic control and as a source of peptide hormones. This provides a basis for understanding effects of drugs on the heart and their place in treating cardiac disease. The main drugs considered are drugs that act directly on the heart, namely antiarrhythmic drugs and drugs that increase the force of contraction of the heart (especially digoxin); antianalgesic drugs are also covered in this chapter. The commonest forms of heart disease are caused by atherosclerosis in the coronary arteries, and thrombosis on ruptured atherosclerotic plaques; drugs to treat and prevent these are considered in Chapters 23 and 24. Heart failure is mainly treated by drugs that work indirectly on the heart via actions on vascular smooth muscle, discussed in Chapter 22, by diuretics (Ch. 28) and β-adrenoceptor antagonists (Ch. 14).</p> <p>INTRODUCTION</p> <p>In this chapter, we consider effects of drugs on the heart under three main headings:</p> <ol style="list-style-type: none"> 1. Rate and rhythm. 2. Myocardial contraction. 3. Metabolism and blood flow. <p>The effects of drugs on these aspects of cardiac function are not, of course, independent of each other. For example, if a drug affects the electrical properties of the myocardial cell membrane, it is likely to influence both cardiac rhythm and myocardial contraction. Similarly, a drug that affects contraction will inevitably affect metabolism and blood flow as well. Nevertheless, from a therapeutic point of view, these three classes of effect represent distinct clinical objectives in relation to the treatment, respectively, of cardiac dysrhythmias, cardiac failure and coronary insufficiency (as occurs during angina pectoris or myocardial infarction).</p> <p>PHYSIOLOGY OF CARDIAC FUNCTION</p> <p>CARDIAC RATE AND RHYTHM</p> <p>The chambers of the heart normally contract in a coordinated manner, pumping blood efficiently by a route determined by the valves. Coordination of contraction is achieved by a specialised conducting system. Physiological sinus rhythm is characterised by impulses arising in the sinoatrial (SA) node and conducted in sequence through the atria, the atrioventricular (AV) node, bundle of His, Purkinje fibres and ventricles. Cardiac cells owe their electrical excitability to voltage-sensitive plasma membrane channels selective for various ions, including Na^+, K^+ and Ca^{2+}, the structure and function of which are described in Chapter 4. Electrophysiological features of cardiac muscle that distinguish it from other excitable tissues include:</p> <ul style="list-style-type: none"> • pacemaker activity • absence of fast Na^+ current in SA and AV nodes, where slow inward Ca^{2+} current initiates action potentials • long action potential (plateau) and refractory period • influx of Ca^{2+} during the plateau. <p>Thus several of the special features of cardiac rhythm relate to Ca^{2+} currents. The heart contains intracellular calcium channels (i.e. ryanodine receptors and inositol triphosphate-activated calcium channels described in Ch. 4, which are important in myocardial contraction) and voltage-dependent calcium channels in the plasma membrane, which are important in controlling cardiac rate and rhythm. The main type of voltage-dependent calcium channel in adult working myocardium is the L-type channel, which is also important in vascular smooth muscle. L-type channels are important in specialised conducting regions as well as in working myocardium.</p> <p>The action potential of an idealised cardiac muscle cell is shown in Figure 21.1A and is divided into five phases: 0 (fast depolarisation), 1 (partial repolarisation), 2 (plateau), 3 (repolarisation) and 4 (pacemaker).</p> <p>▲ Fast depolarisation occurs when the membrane potential reaches a critical level (threshold potential, $\sim -70 \text{ mV}$) at which the inward current of Na^+ flowing through the voltage-dependent sodium channels becomes large enough to produce a regenerative (all-or-none) depolarisation. This mechanism is the same as that responsible for action potential generation in neurones (see Ch. 4). Activation of sodium channels by membrane depolarisation is transient, and if the membrane remains depolarised for more than a few milliseconds, they close again (inactivation). They are therefore closed during the plateau of the action potential and remain unavailable for the initiation of another action potential until the membrane repolarises.</p> <p>Phase 1, partial repolarisation, occurs as the Na^+ current is inactivated. There may also be a transient voltage-sensitive outward current.</p> <p>Phase 2, the plateau, results from an inward Ca^{2+} current. Calcium channels show a pattern of voltage-sensitive activation and inactivation qualitatively similar to sodium channels, but with a much slower time course. The plateau is sustained by a special property of the cardiac muscle membrane known as inward-going rectification, which means that the K^+ conductance falls to a low level when the membrane is depolarised. Because of this, there is little tendency for outward K^+ current to restore the resting membrane potential during the plateau, so a relatively small inward Ca^{2+} current suffices to maintain the plateau.</p> <p>Phase 3, repolarisation, occurs as the Ca^{2+} current inactivation and a delayed rectifier-mediated K^+ current (analogous to but much slower than the K^+ current that causes repolarisation in neurones, see Ch. 4) activates, causing outward K^+ current. This is augmented by outward K^+ current which is activated by high intracellular Ca^{2+} concentrations, $[\text{Ca}^{2+}]_i$ during the plateau, and sometimes also by other K^+ currents, including one through channels activated by</p>	<p>RANG AND DALEB • #017/5 PHARMACOLOGY</p> <p>Section 3 Drugs affecting major organ systems</p> <ol style="list-style-type: none"> 21 The heart 22 The vascular system 23 Atherosclerosis and lipoprotein metabolism 24 Haemostasis and thrombosis 25 Haemopoietic system and treatment of anaemia 26 Anti-inflammatory and immunosuppressant drugs 27 Respiratory system 28 The kidney 29 The gastrointestinal tract 30 The control of blood glucose and drug treatment of diabetes mellitus 31 Obesity 32 The pituitary and the adrenal cortex 33 The thyroid 34 The reproductive system 35 Bone metabolism 	<p>RANG AND DALEB • #017/5 PHARMACOLOGY</p> <p>21 The heart</p> <p>Overview</p> <p>In this chapter, we review briefly the physiology of cardiac function in terms of electrophysiology, of contraction, of oxygen consumption and coronary blood flow, of autonomic control and as a source of peptide hormones. 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Print

Electronic

eBook Types



ePub

- Universally recognized industry standard XML-based eBook format that enables compatibility across a wide range of eReader platforms, such as Apple, Google, Barnes & Noble, and KOBO.
- ePub is “reflowable” and flexible. Text automatically adjusts to the screen size of the reader and parameters set by the user (for example, font size).
- Current standard for ePub production is ePub3, which contains standard multimedia functionalities (audio and video).

Mobipocket

- Are XML based, making them reflowable and flexible.
- Files can only be read on specific operating devices, such as the Amazon Kindle.

WebPDF

- Lower resolution PDF version optimized for quick access on the Internet.
- Large, static files, which do not reflow.

PubXML

- Not a widely used format.
- 3PP requires the raw XML file, delivered in a Zip file. Then creates an eBook version for specific devices.

Digital Rights Management (DRM)

The standard approach for protecting digital files from illegal copying and piracy. DRM is a lock placed on the digital file that keeps the file connected to the account of the customer who purchased the digital file. DRM intends to control executing, viewing, copying, printing and altering of work or devices.

DRM in eBooks

In eBooks the DRM can be placed as a wrapper around the eBook file or as part of the eBook package. The DRM prevents the eBook from being opened on an eReader or device without the correct key provided by the retailer or publisher.

Currently there are four major DRM schemes being used:

Amazon: Applies their own DRM on Kindle eBooks purchased from Amazon websites.

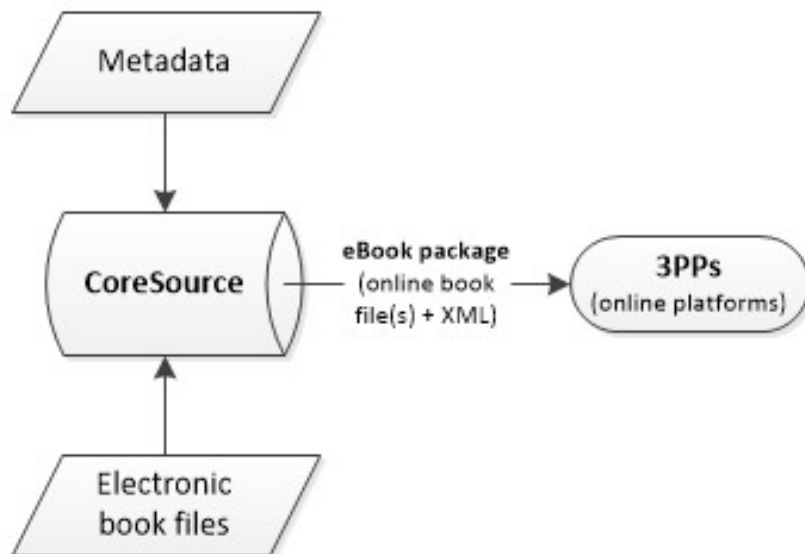
Apple: Applies their own FairPlay DRM on eBooks purchased from the iBookstore.

Adobe: Created the Adobe Digital Editions Protection Technology (ADEPT). It is currently used by a large number of retailers, including Barnes & Noble, Kobo, Ingram Fulfillment System. Use requires that Adobe Digital Editions be installed on the eReader or device.

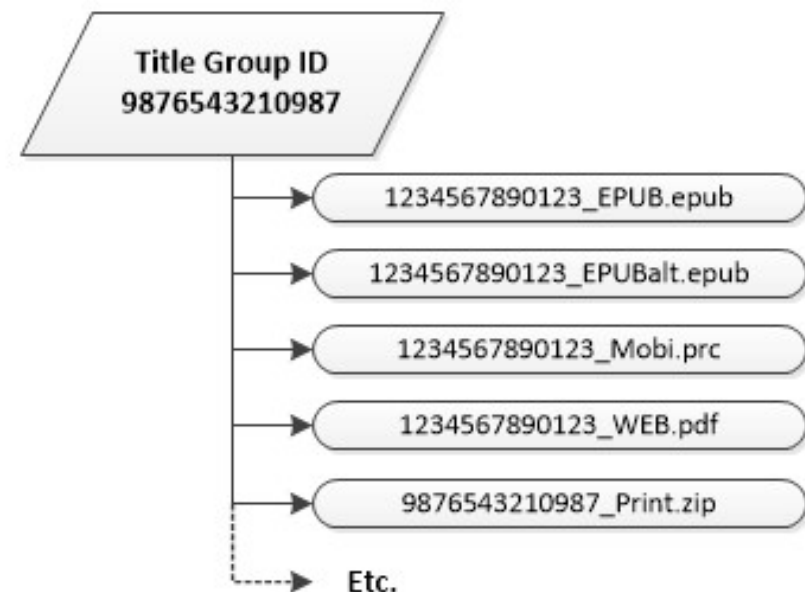
Marlin Trust Management Organization (MTMO): A DRM developed and maintained by the Marlin Developer Community (MDC), an open industry group founded by Intertrust, Panasonic, Philips, Samsung, and Sony. It is used in eBooks sold by KNO.

High-Level eBook Distribution

File Input to CoreSource



Storage of Files



Thank you!

QUESTIONS?