Learning Objectives

- To review the history and content of the Red Book®
- To describe important advances in eradication of vaccine preventable infections in children
- To outline challenges for the future and sample important changes in the 2012 edition of the Red Book®

History of Pediatrics in the US

- Section of Diseases of Children of the AMA organized in 1880
  - Abraham Jacobi, first president
- American Pediatric Society (APS) convened in 1888
  - L Emmett Holt, Sr- first address highlighted 50% mortality for hospitalized infants and high nosocomial infection rate
- 1930-1933, three new pediatric organizations
  - American Academy of Pediatrics (AAP) in 1930
  - Society for Pediatric Research (SPR) in 1931
  - American Board of Pediatrics in (ABP) 1933

Early Documentation of Pediatric Infections

- 1st century - Hippocrates 1st description of mumps
- 1st -14th century – Described skin or visible disease manifestations (eg diphtheria, smallpox, measles)
- 15th century - print invented
  - First texts appeared
  - More detailed descriptions of pediatric infections
- 17th century – print revisions with clinical descriptions of infectious syndrome complexes
  - Chorea, scrofula, pertussis, smallpox, measles, diphtheria

Pediatric Treatment Descriptions

- 1800-1870 - major causes of death
  - TB, diarrhea, bacillary dysentery, typhoid fever, scarlet fever, diphtheria, pneumonia
- 1813 - 7 YO osteomyelitis treated by debridement
  - Founder of Dartmouth Medical School William Potts Dewees
- 1825 - 1st comprehensive American pediatrics text
  - Tracheostomy for diphtheria (Dr. Elizabeth)
- Late 19th century
  - Purifying milk supply public health initiative

Medical Progress vs ID

- 1881-1914: >30 agents of diseases identified
- 1900-1915: Serum therapy
  - Diphtheria, meningococcus and GABHS
- 1915-1935
  - Nutrition, improved sewage/sanitation
  - Vaccine development (toxoids, e.g. diphtheria)
- Late 1930s: Antibiotics
  - Sulfas, streptomycin, isoniazid, PCN, chloramphenicol
**History of the Red Book®**

- 1930 - AAP established
  - 35 pediatricians, 304 charter members
- 1933 - Special Committee on Prophylactic Procedures Against Communicable Diseases
  - (J Pediatr 1935; 6 pages)
  - 1936 – AAP Proposed to create a Report of the Committee on Immunization Procedures
    - 1st meeting 1937–report 1938

**Red Book® 1938**

- 1938 Publication of small pamphlet - 8 pages
- Included
  - Active immunity, passive immunity
  - Treatments
  - Level of evidence
- 18 Diseases
  - 4 Vaccines, 13 anti-toxins
  - 1 antimicrobial - Sulfanilamide
    - For erysipelas, epidemic meningitis and pneumonia

**Diseases Discussed in the 1938 Red Book®**

- Common cold
- Staphylococcus
- Scarlet fever/ Erysipelas
- Epidemic meningitis
- Pneumonia
- Pertussis
- Measles
- Mumps
- Varicella
- Rabies
- Tuberculosis
- Typhoid fever
- Tetanus
- Epidemic encephalitis*
- Diphtheria
- Poliomyelitis
- Variola

**Reduction in Vaccine-Preventable Diseases, United States**

<table>
<thead>
<tr>
<th>Disease</th>
<th>20th Century Annual Mortality</th>
<th>2009 Reported Cases</th>
<th>Percent Decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smallpox</td>
<td>29,005</td>
<td>0</td>
<td>100%</td>
</tr>
<tr>
<td>Diphtheria</td>
<td>21,063</td>
<td>0</td>
<td>100%</td>
</tr>
<tr>
<td>Measles</td>
<td>530,217</td>
<td>61</td>
<td>&gt; 99%</td>
</tr>
<tr>
<td>Mumps</td>
<td>162,384</td>
<td>902</td>
<td>99%</td>
</tr>
<tr>
<td>Pertussis</td>
<td>200,752</td>
<td>13,006</td>
<td>93%</td>
</tr>
<tr>
<td>Polio (paralytic)</td>
<td>16,316</td>
<td>0</td>
<td>&gt; 99%</td>
</tr>
<tr>
<td>Rubella</td>
<td>47,745</td>
<td>4</td>
<td>&gt; 99%</td>
</tr>
<tr>
<td>Congenital Rubella Syndrome</td>
<td>182</td>
<td>1</td>
<td>99%</td>
</tr>
<tr>
<td>Tetanus</td>
<td>900</td>
<td>14</td>
<td>99%</td>
</tr>
<tr>
<td>Haemophilus influenza</td>
<td>20,000</td>
<td>243</td>
<td>99%</td>
</tr>
</tbody>
</table>

MMWR 2010;58(51,52):1468-1460  JAMA 2007;298:2155-2163

**Vaccine Recommendations in the 1938 Red Book**

- Diphtheria (toxoid vaccine 1926)
- Pertussis (whole cell vaccine 1914)
- Scarlet fever (antitoxin for passive immunity)
- Tetanus (toxoid vaccine 1937)
- Typhoid fever (in locales where common)
- Varicella (using vesicle contents)
- Variola (calf vaccine)
Topics Included in the 1938 *Red Book®* by Current Vaccine Status

- **Vaccine preventable today (12 diseases)**
  - Diphtheria, epidemic meningitis, epidemic parotitis (mumps), pertussis, pneumonia (pneumococcal), poliomyelitis, rabies, measles, tetanus, typhoid fever, varicella, variola

- **Not vaccine preventable today (6 diseases)**
  - Common cold, epidemic encephalitis, erysipelas, scarlet fever, staphylococcal infections, tuberculosis

Number Of Pages in Each Edition of the *Red Book®* from 1938 to 2009

Red Book® Editors Through the Ages

- **John A. Toomey 1938-1947**
  - 8 editions
- **John J. Miller 1951-1952**
  - 2 editions
  - Discussion of impact of rx
- **Arno McGuinness 1955**
  - 1 edition
- **Edward C. Curnen 1957**
  - 1 edition
- **Alex J. Steigman 1961**
  - 1 edition
  - Bacterial resistance to abx
- **Franklin H. Top 1964-1970**
  - 3 editions
- **Alex J. Steigman 1974-1977**
  - 2 editions
  - 500 pp
- **Stan Plotkin organizes PID Club
  - Jerome Klein 1982**
  - 1 edition
- **Georges Peter 1986-1997**
  - 5 editions
  - 500-600 pp
  - 1994 first PID certification ABP
- **Larry Pickering 2000-2012**
  - 5 editions
  - 900-1058 pp
- **David Kimberlin 2015**

Some of the Red Book® Editors

- John A. Toomey
- Edward C. Curnen
- Jerome Klein
- Georges Peter
- Larry Pickering
- David Kimberlin

2001 Tales from the Red Book, prepared for the 43rd Pediatric Symposium, Long Beach, California

Yesterday: Varicella Vaccine, 1938 Style

<table>
<thead>
<tr>
<th>Active Immunity</th>
<th>Passive Immunity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Veseicle contents have been used</td>
<td>No evidence procedure of any value</td>
</tr>
<tr>
<td>Comment</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Treatment</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Convalescent serum has been used.</td>
<td>Consensus opinion that is useless.</td>
</tr>
<tr>
<td>Exposure</td>
<td>10 mL of convalescent serum IM has been used.</td>
</tr>
<tr>
<td>Comment</td>
<td>Results are not convincing.</td>
</tr>
</tbody>
</table>

Vaccine Advances Since 1938

- 12/18 diseases in 1938 *Red Book®* now preventable
- Smallpox has been eradicated
- Polio is no longer in Western hemisphere
- 90% reduction in most vaccine preventable diseases
- 16 routine vaccines now used in children and adolescents to prevent infectious diseases
- 2 vaccines also prevent cancer
  - HBV and HPV
Examples of 2011-12 Updated Recommendations

| Tdap | • Pregnant women + infant contacts  
      | • All adults              
| Influenza | • Antiviral agents for treatment and chemoprophylaxis  
    | • Annual seasonal influenza recs |
| HPV | • Universal use in males          
| MCV4 | • Booster dose for adolescents    
      | • Immunization down to 2 months for those at increased risk |

Antimicrobials Then Sulfanilamide

• Only antimicrobial agent in the 1938 Red Book
• 3 indications  
  – Erysipelas  
  – Epidemic meningitis  
  – Pneumococcal pneumonia (serotype III)
• No antiviral, antiparasitic, or antifungal agents available

Today: Antimicrobials and Related Therapy (Section 4)

• 71 pages include sections dealing with  
  – Antimicrobial stewardship  
  – Principles of appropriate use  
  – Drug doses for antibacterial, antifungal, antiviral, and antiparasitic agents  
  – Recommendations for STIs  
  – Guidance for tetracyclines and fluoroquinolone use in children

Today: Drugs for Parasitic Infections (Section 4)

Travel, immigration, immunosuppressive drugs and diseases mean that clinicians anywhere may detect parasites

Need-To-Know Anti-Parasitics

• Table 4.10 (p 862)  
  – Principal AEs
• Table 4.11 (p 866)  
  – Known prenatal risks
• Table 4.12 (p 868)  
  – Brand names and manufacturers

Highlights of the 29th 2012 Edition

• 1,058 pages in print edition  
• 387 contributors  
• Reviewed by CDC, FDA, and NIH  
• “Summary of Major Changes” - 93 items  
• Notably enhanced digital versions  
• Improved visual images

Summary of Major Changes

1. Direct links throughout Red Book e-version  
   – Images of clinical manifestations and microbiologic findings  
   – Maps of geographic locations of specific diseases  
   – Graphs; Tables of disease rates
2. Websites (URL’s) in bold type, verified for accuracy/accessibility
3. Updated references to evidence-based recommendations  
   – AAP, ACIP, CDC, and other professional organizations
4. Updated standardized approaches to disease prevention  
   – Immunizations  
   – Antimicrobial prophylaxis,  
   – Infection-control practices
New/Updated Tables and Figures

- All Vaccines Recommendations
- Vaccine contraindications and precautions
- Influenza immunization with egg allergy
- Hepatitis B virus infection staging
- Tuberculosis testing
- Syphilis diagnosis and treatment algorithm
- grp B streptococcus management algorithm
- Biologic response modifiers

Chapter Updates Throughout From Key Resources

- CDC STI Guidelines
- CDC Yellow Book - Travel
- CDC General Recommendations
- CDC Nationally Notifiable Diseases
- CDC Immunization of Health Care Personnel
- CDC Treatment/ Prevention Opportunistic Infections
- CID and ACIP Vaccine Recommendations
- Medical Letter Drugs for Parasitic Infections
- Nelson’s Pediatric Antimicrobial Therapy

Major Changes to Red Book Online

- Enhanced mobile download
  - Standard part of RBO access (for the first time!)
  - Access anywhere, even w/o wi-fi or Internet connection
- Context-specific images within text
- Online CME for using Red Book Online
- New images (> 2,500 overall)
- Influenza resource page
- News and updates
  - Including policy statements and vaccine updates

Use Searches to Earn PediaLink Online CME

Internet Point of Care Search
Visual Library of >2,500 Images

Expanded with new images from AAP library, AAP members, CDC Public Health Image Library, CDC Yellow Book, and more.

Mobile Download – Offline Access

- Most enhanced mobile version yet, now a standard part of RBO
  - Apple & Android
  - Smartphones and tablets
  - "offline" Red Book access, 24/7/365
- Full text
- Context-specific images
- Interactive search
- Updates

E-Advantage: News and Updates

- New Policy statements
- Vaccine updates
- Errata
- Shortages
- And more

Recent and Current Hot Topics

- Rabies vaccine shortage
- Hantavirus in Yosemite Park
- West Nile Virus throughout US
- Seasonal influenza recs
- H3N2v influenza outbreaks
- Continuing cases of pertussis across US

COID, 2010-2012

2012 Red Book Dedication for Sam Katz, MD, FAAP

This edition of the Red Book is dedicated to Samuel L. Katz, MD, FAAP, who served on the American Academy of Pediatrics Committee on Infectious Diseases for 12 years and who was chairman of that committee from 1969 to 1976.
### Online Vaccine Resources

- [www.Healthychildren.org](http://www.Healthychildren.org)
- [www.aap.org/immunization/](http://www.aap.org/immunization/)
- [https://brightoncollaboration.org/public/resources.html](https://brightoncollaboration.org/public/resources.html)
- [www.sabin.org](http://www.sabin.org)
- [www.vaccine.org](http://www.vaccine.org)
- [www.immunize.org](http://www.immunize.org)
- [www.immunizationinfo.org](http://www.immunizationinfo.org)
- [www.vaccinesafety.edu](http://www.vaccinesafety.edu)
- [www.immunizationaction.org](http://www.immunizationaction.org)
- [www.gavialliance.org](http://www.gavialliance.org)
- [www.immunize.org](http://www.immunize.org)
- [www.vaccinesafety.edu](http://www.vaccinesafety.edu)
- [www.immunizationinfo.org](http://www.immunizationinfo.org)
- [www.pkids.org](http://www.pkids.org)
- [www.who.int/topics/immunization/en/](http://www.who.int/topics/immunization/en/)
- [www.fda.gov/cber/vaccines.htm](http://www.fda.gov/cber/vaccines.htm)
- [www.cdc.gov/vaccinesafety](http://www.cdc.gov/vaccinesafety)
- [www.hhs.gov/nvpo/](http://www.hhs.gov/nvpo/)

### Red Book Resources

#### Red Book Online

- [www.aapredbook.org](http://www.aapredbook.org)

#### Red Book Online Updates

- [www.aapredbook.org/updates](http://www.aapredbook.org/updates)