Objectives

- Understand the scope and practice of OM
- Name 2 historical OM figures
- Identify significant laws
- Name one major preventive health initiative in which OM plays an important role
- Enumerate OM services delivery methods
- Explain the essential and elective components of an OM practice

Introduction to Occupational Medicine

Scott C. Jones, DO, MPH, FAOCOPM
St. Petersburg, Florida
March 14, 2012

Definition of Occupational Medicine

- The branch of medicine that deals with the prevention and treatment of occupational injuries and diseases.
- An occupational disease is one that is associated with a particular occupation and occurs in the workplace.
- Some occupations confer specific risks, such as the prevalence of black lung in coal miners.

Why Occ Med?

- The ONLY medical specialty trained in the interaction between the worker and the work place!
- OccDocs MUST know the work environment of their patients!
- Companies MUST know their OccDocs!

Now for some Occ Med History...

History of Occupational Medicine

- Mirrors the history of medicine
- Hippocratic teaching (460-377 BC) about observation and balance, not superstitious
  - “Observe the patient’s condition and their response to disease, rather than the disease itself.”

Pliny the Elder 23 - 79 AD

- “The fumes from silver mines are harmful to all animals…”
- “…when well shafts have been sunk deep, fumes of sulfur or alum rush up to meet the diggers and kill them.”
- Animal bladder “veils” to protect miners
Galen 131 - 200 AD

- Physician to the gladiators under Marcus Aurelius
- Accomplished surgeon, wrote about procedures and instruments
- Wound treatment in the workplace
- Observations of mine workers exposed to acid mists

Rhazes c850 - 923

- Documented occupations of patients
  - Cotton merchant
  - Cloth merchant
  - Goldsmith
  - Bookseller

Bernardino Ramazzini 1633 - 1714

- "To the questions recommended by Hippocrates, he [physician] should ask one more – What is your occupation?"
- Pioneered field of Ergonomics
- Visited workers and workplaces

"Disease of Scribes and Notaries"

- "An acquaintance of mine, a notary by profession, still living, used to spend his whole life continually engaged in writing, and he made a good deal of money from it; first he began to complain of intense fatigue in the whole arm, but no remedy could relieve this, ..."

"Disease of Scribes..."

- "...and finally the whole right arm became completely paralyzed. In order to offset this infirmity he began to train himself to write with the left hand, but it was not very long before it too was attacked by the same malady."

Recommended Reading

- Lancet article: Lancet 1999;354:858-61
### American Osteopathic College of Occupational and Preventive Medicine
Basic Course in Occupational and Environmental Medicine, Part I
March 14, 2012, St. Petersburg, Florida

<table>
<thead>
<tr>
<th>Percival Pott 1714 - 1788</th>
<th>Thomas Morrison Legge 1863 - 1932</th>
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<tbody>
<tr>
<td>• Scrotal cancers in chimney sweeps</td>
<td>• First medical inspector of factories in England</td>
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<tr>
<td>• “pioneer of observational epidemiology”</td>
<td>• Lead Poisoning and Lead Absorption</td>
</tr>
<tr>
<td>• “Father” of environmental carcinogenesis</td>
<td>• Recommended banning indoor lead paint</td>
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<td>• Occ med in medical school curriculum</td>
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<table>
<thead>
<tr>
<th>Alice Hamilton 1869 - 1970</th>
<th>Alice Hamilton Award</th>
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<tr>
<td>• pioneer of toxicology</td>
<td>From CDC/NIOSH Website:</td>
</tr>
<tr>
<td>• 1919 first woman appointed to faculty at Harvard Medical School, Department of Industrial Medicine</td>
<td>• Alice Hamilton Awards</td>
</tr>
<tr>
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<td>The Alice Hamilton Awards for Occupational Safety and Health recognize the scientific excellence of technical and instructional materials by NIOSH scientists and engineers in the areas of biological science, engineering and physical science, human studies, and educational materials.</td>
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<td></td>
<td>• The Awards honor Dr. Alice Hamilton (1869 - 1970), a pioneering researcher and occupational physician, and are presented each year by NIOSH on the basis of rigorous reviews by panels of scientific experts from outside the Institute.</td>
</tr>
<tr>
<td></td>
<td><a href="http://www.cdc.gov/niosh/hamilton/about.html">http://www.cdc.gov/niosh/hamilton/about.html</a></td>
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<td>active role in exposing the 1924 Ethyl leaded gasoline and 1928 “radium girls” industrial disasters</td>
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<table>
<thead>
<tr>
<th>Scott C. Jones, DO, MPH 1959 - present</th>
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<tbody>
<tr>
<td>• Board Cert. Occ Med</td>
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<td>• DOCPMS</td>
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<tr>
<td>• Medical Director</td>
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<tr>
<td>– BJC CHS</td>
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<tr>
<td>– St. Louis Metro Police Dept</td>
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<td>– St. Louis County Police Dept</td>
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<td>– Metro Bistate</td>
</tr>
<tr>
<td>• Compensation Systems</td>
</tr>
<tr>
<td>– State WC</td>
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<tr>
<td>– FELA</td>
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<td>– Jones/Longshoremans’</td>
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</table>
**Historical Events**

- Factory Act of 1867
  - Restricted hours during which children, young workers and women were permitted to labor

- Worker Compensation Laws
  - No fault insurance coverage for injured workers
  - Early 1900’s
  - State based programs and laws
  - Employee right-to-choose; right-to-know
  - Any contested cases are adjudicated by state compensation boards
  - Burden of proof on worker

- Occupational Medicine became specialty 1954
- OSHA established 1970 – safe working environment
- NIOSH established 1970 – research agency
- EPA established 1970 –
  - Regulates pesticides,
  - Enforces Toxic Substance Control Act (TSCA)
  - Noise Control Act
  - And many more since then

**Occupational Health Services**

- What does one do in occupational medicine?
- What is the scope of services?
- Quality Care: Clinical v. Occ Med

**Team Approach**

- Physician
- Occupational Health Nurse
- PAs and NPs
- Physical Therapist
- Case Manager
  - Internal
  - External
- Safety Officers
- Industrial Hygienist
- Management (plant manager, HR dept)
- Ergonomic team
- Environmental team
- TPAs
- Insurance Cos.
Types of Services

- Clinical
- Ancillary
- Preventive
- Health Promotion Programs
- Health and Productivity Management
- Worker Health as force for National Health Policy reform

Clinical Services

- Examinations
  - Pre-placement
  - Return to work
  - Fitness for duty
  - Respirator clearance
  - Periodic Surveillance
  - Disability examinations
  - IME
- Injury Care

Ancillary Services

- Audiometric
- Spirometry
- Visual testing
- Laboratory testing
- X-rays
- Physical Therapy
- MRO Drug Testing

Preventive Health Services

- Health Promotion Programs
  - Smoking cessation
  - Stress reduction
  - Nutritional counseling
  - Mental Health and Depression
  - Sedentary Lifestyle interventions
- Periodic evaluations
  - Risk assessment
  - Lifestyle factors
  - Appraisals of health (HRAs)

Healthy People 2020

Access Health Services
- Adolescent Health: New
- Arthritis, Osteoporosis, and Chronic Back Conditions
- Blood Disorders and Blood Safety: New
- Cancer
- Chronic Kidney Disease
- Disabilities, Including Alzheimer's Disease
- Diabetes
- Disability and Health
- Early and Middle Childhood: New
- Educational and Community-Based Programs
- Environmental Health

Family Planning
- Fetal Safety
- Gun Violence: New
- Health Communication and Health Information Technology
- Healthcare-Associated Infections: New
- Health-Related Quality of Life: New
- Housing: New
- Hearing and Other Sensory or Communication Disorders
- Heart Disease and Stroke
- Home and Community-Based Services: New
- HIV
- Influenza and Infectious Diseases
- Injury and Violence Prevention

Family Planning
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- Hearing and Other Sensory or Communication Disorders
- Heart Disease and Stroke
- Home and Community-Based Services: New
- HIV
- Influenza and Infectious Diseases
- Injury and Violence Prevention

Lesbian, Gay, Bisexual, and Transgender Preparedness: New
- Public Health Infrastructure
- Respiratory Diseases
- Sexually Transmitted Diseases
- Sleep Health: New
- Social Determinants of Health: New
- Tobacco Use: New
- Vision: New
- Wellness: New

Topics marked "New" are topic areas that were not included in Healthy People 2010.


Types of Occ Med Practices

- Multi-specialty group practices
- Corporate-based clinics
- Private practice
- Hospital based programs
- University/Teaching/Residency
- Primary care offices

Basic Function of Occ Physician

- Provide high-quality medical services
  - i.e. give good EBM care
- Understand company's objectives
  - Medical conscience for employers
- Aid in regulatory compliance
  - OSHA, EPA, DOT
- Marketing and billing

Work-Site Visit

- First impressions count
- Number of employees
- Number of shifts
- Union or non-union shop
- Health/medical services available
- Essential Functions in Job Descriptions
- Review the Material Safety Data Sheet – MSDS
- General housekeeping (spills, cleanliness)

Work-Site Visit

- Observe workers working
- Observe workers arriving, on breaks and leaving
- Physical environment: temp., odor, vibration, noise
- General safety – machine guards, safety showers, signs, trip hazards
- Eating area, wash room
- Ergonomic issues – heavy lifting, repetitive motion, awkward positions

Work-Site Visit

- Chemical, physical, biological hazards
- Dermal exposures
- Respiratory exposures
- Use of PPE
- Ventilation/exhaust systems, administrative controls

Assisting Employer

- OSHA compliance
  - Respiratory Protection Program
  - Hearing conservation programs
  - DOT requirements
Evidence Based Medicine

"the conscientious, explicit and judicious use of current best evidence in making decisions about the care of the individual patient. It means integrating individual clinical expertise with the best available external clinical evidence from systematic research."

Dr. David Sackett, 1996

Approach to Occ Injury & Illness

- Subjective information
  - History of present illness or injury
    - In patient’s own words..."xyz"
  - Job history: past and present
  - Exposure history: work, hobbies, environmental (e.g. Doe Run)
  - ROS for temporal relationships
  - History of Present Injury/Illness

Approach to Occ Injury & Illness

- Objective
  - Physical examination, functional testing
  - Lab and x-ray
  - Work place visit
- Assessment - diagnoses, opinion on WR
- Plan
  - Medication: OTC v. Rx
  - Restrictions: based on injury NOT work
  - HEP, Physical Therapy, exercise prescription
  - Care plan, manage expectations, recheck

Work Relatedness

- "Definitive causation assessments should be based on considerably more information than preliminary assessments."
- Objective vs. Subjective
  - “straight shooter”
  - "nice person"
  - Did YOU witness the incident?

Case Management Timeline

DDE  ARTW  RTW  Closure
Injury Management  Disability Management
OMP (Out of Medical Process)
Injury Management

Doctors On-Call
On Call Physician

Communication of Expectations

DOI → ARTW

Interventions more effective
Interventions less effective

Disability Management

Review Records for Abilities
Second Opinion Exam
Functional Testing
Vocational Counseling

Managers, Co-workers, Observe Safety & Productivity

ARTW → RTW

Ideally, ARTW=RTW date

Tools of Evidence Based Medicine

• MOI Investigation
• ICD-9 (ICD 10)
• ACOEM Occupational Medicine Treatment Guidelines
• Official Disability Guidelines
• Medical Disability Advisor
• AMA Guides to the Evaluation of Permanent Impairment

ACOEM Occupational Medicine Treatment Guidelines

Evaluation and Management of Common Health Problems and Functional Recovery in Workers

Ed. Jeffrey S. Harris, MD, MPH, MBA

ACOEM Occupational Medicine Treatment Guidelines
I. Foundations of Occupational Medicine Practice
1. Prevention
2. General Approach to Initial Assessment
3. Initial Approaches to Treatment
4. Work Relatedness
5. Cornerstones of Disability Management
7. Pain Behavior, Inconsistent Findings and Motivation for Self-Care and Recovery
8. Consultations and Independent Medical Examinations
9. Reintegration and Reconditioning after Testing or Surgery
Prevention Strategies

- Primary – avoid incident
  - Safe work place
  - Fit worker
- Secondary – avoid disability
  - Proper Treatment
  - BIC
- Tertiary – avoid recurrence
  - FFD
  - Fit work to worker

*Involve your Occ Doc!*

Delayed Recovery

- Exam findings
- Functional data in chart
  - Rehab
- Disability duration guides
- FCE
- Natural history of condition
- surveillance

ACOEM Occupational Medicine Treatment Guidelines

II. Presenting Complaints

10. Neck and Upper Back
11. Shoulder
12. Elbow
13. Forearm, Wrist and Hand
14. Low Back
15. Knee
16. Ankle and Foot
17. Acute Eye Complaints
18. Stress-Related

ODG

Official Disability Guidelines

Ed. Phillip L. Denniston
Work Loss Data Institute

Practical Application

ICD 9 Diagnosis

<table>
<thead>
<tr>
<th>Code</th>
<th>Diagnosis</th>
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<tbody>
<tr>
<td>724.5</td>
<td>Backache</td>
</tr>
<tr>
<td>726.1</td>
<td>Rotator Cuff Syndrome Shoulder</td>
</tr>
<tr>
<td>845.0</td>
<td>Ankle Sprain or Strain</td>
</tr>
</tbody>
</table>

ODG: Official Disability Guidelines

- RTW data and Best Practices
- Causality Likelihood
- Medical Costs
- Case Management Triage
  - Levels I, II, III and inflection point
- Physical Therapy Guidelines
- DD Adjustment Factors by Age
### Strategies for a successful Workers’ Compensation Program

<table>
<thead>
<tr>
<th>Prevention from leadership and management</th>
<th></th>
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</table>
| 1. Consistent enforcement of P&P  
2. Participation in routine meetings to review and discuss issues. | 1. Earn support of administration for consistent enforcement of P&P  
2. Meet with key stakeholders at least once a year to report on compliance. |

<table>
<thead>
<tr>
<th>Effective policies and procedures</th>
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</table>
| 1. Clear processes for work-related injuries, illnesses and exposures  
2. Policies address key components  
3. Ongoing communication of P&P  | 1. Understand how P&P are developed and explained in the organization  
2. Work with HR, Legal, Finance to create P&P that support goals  
3. Develop and deliver material at new employee orientation, ongoing supervisor training. |

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<thead>
<tr>
<th>Ongoing analysis of data</th>
<th></th>
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</table>
| 1. Monthly and annual comparisons against past experiences & industry data  
2. In-depth analysis of problem areas | 1. Frequency and severity compared to past and similar organizations  
2. Interdisciplinary effort to identify and address high-risk areas unique to the organization |

<table>
<thead>
<tr>
<th>Interventions targeted at issues</th>
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</table>
| 1. Use data and risk assessment to create targeted initiatives  
2. Implementation of intervention plan (e.g. ergonomics) | 1. Identify responsible party for the program  
2. There will be a positive ROI for funding targeted interventions |

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<thead>
<tr>
<th>Control over timely evidence-based care</th>
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</thead>
</table>
| 1. Employer communicates key information to medical providers  
2. Ongoing application of Evidence Based Medicine  | 1. Establish direct communication line with medical providers  
2. Insist that medical providers practice evidence-based medicine |

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<thead>
<tr>
<th>Disciplined oversight of medical processes</th>
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</thead>
</table>
| 1. Management begins at the point of discovery  
2. Ongoing application of Evidence Based Medicine  
3. Ongoing education for claims adjustors and case managers | 1. Evaluation by OPM specialists with attention to work status, medications and follow-up  
2. Use of pain charts, Official Disability Guidelines (ODG), etc  
3. Develop expertise in use of ODG  
4. Share expertise with key players |

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Thank You!

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