

# Abdominal Pain

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E . James Radin , MD



C'MON DOWN - I'VE GOT 6 JERRIES CORNERED  
OVER HERE !!



# Abdominal Pain

- Symptom of a multitude of organ problems
- GI , Vascular , Cardiac , Renal , Ob – Gyn ,
- Acute , sub – acute , chronic
- Medication and drug induced
- No easy pre – hospital tools to assess
- Trauma
- Can be drastically altered by LOC
- Can be drastically altered by spinal injury



# Abdominal Pain

Types of Pain . . . . .

Superficial  
Dermatomal  
Referred  
Radiated  
Deep  
Rebound



# Abdominal Pain

- Types of pain con't . . . . .
  - Constant
  - Colic
  - Burning
  - Ripping / tearing
  - Visceral / Somatic



# Somatic Pain

- Arising from the abdominal wall . . . . .
  - Via
    - Parietal peritoneum
    - Root of the mesenteries
    - Respiratory diaphragm
    - Well localized
    - Sharper and brighter quality



# Visceral Pain

- **Deep pain , poorly localized pathways**
- **Triggers autonomic reflexes , hence . . .**
  - **Diaphoresis**
    - **Nausea**
    - **Vomiting**
  - **Tachycardia**
  - **Bradycardia**



## Referred Pain

- **Dermatome character , but not always exact**
- **Somatic sensory tracts take origin from same roots as do the visceral afferents .**
- **Pathway up cord via the convergent projections**
- **Cutaneous nature to the pain**
- **Intense , associated with muscular rigidity and hyperesthesia**



# Etiologies

- Inflammatory causes ..
  - Peritonitis , chemical or bacterial
- Distension of a hollow organ . . .
  - Appendicitis
- Solid organ . . . . .
  - Pancreatitis
- Mesenteric . . .
  - Lymphadenitis
- Pelvic . . .
  - PID



# Etiologies

- Mechanical Causes . . . . .
  - Hollow organ . . .
    - ex . Bowel obstruction / tumor
    - Solid organ . . .
  - ex. Acute hepatomegally / sub-capsular hematoma
    - Mesenteric . . . . .
    - ex. Omental torsion
      - Pelvic . . . . .
    - ex. Ectopic Pregnancy



# Etiologies

- Vascular causes . . . . .
  - Intraperitoneal bleeding
  - Rupture of aortic aneurysm
    - Ischemic bowel



# Etiologies

- Miscellaneous causes . . . . .
  - Endometriosis



# Abdominal Pain

- **Nausea . . . . .**
  - **Nausea then pain**
  - **Pain then nausea**



## Nausea then Pain

- Vomiting can induce upper abdominal pain due to shear injury to the bowel , musculature
  - Viral
  - Bacterial
  - Biliary
  - Toxin
- Medication reaction
  - PUD
  - GI bleeding



# Abdominal pain then Nausea

- **Bowel obstruction**
  - **Pancreatitis**
    - **Biliary**
  - **Appendicitis**
- **Nephrolithiasis**
- **Pyelonephritis**
  - **Sepsis**
- **Perforation**
- **Bowel ischemia**



# Vomiting

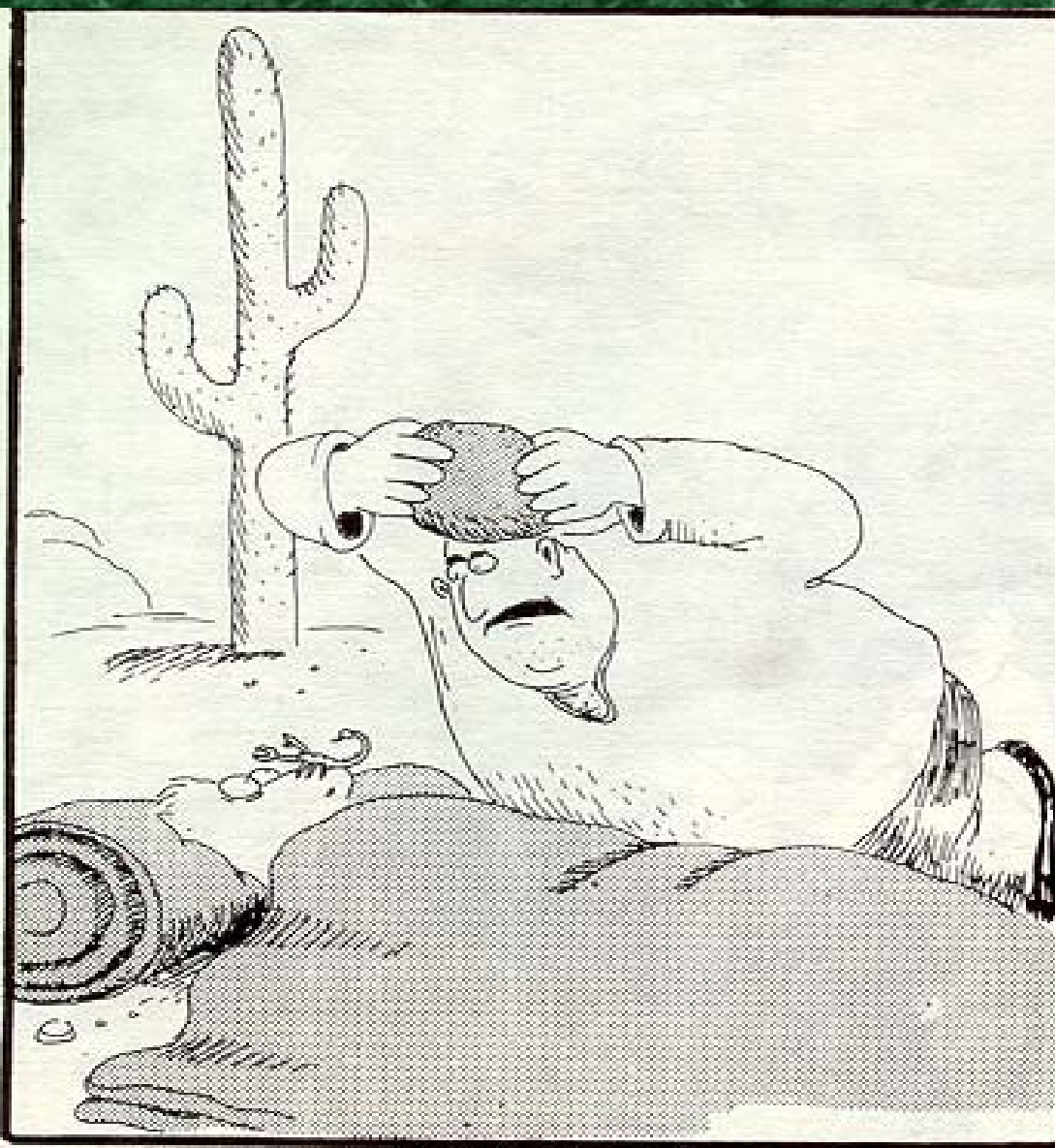
- Severe peritoneal irritation
- Stretching of a mesentery
- Bowel obstruction
- Absorbed toxins
  
- ex . Pain before the vomiting with appendicitis



# Vomiting

- Pain early on with vomiting , as with peritonitis biliary colic , renal colic
- Pain / vomiting interval varies with the severity and the location of a bowel obstruction





"Hold still, Carl! . . . Don't . . . move . . . an . . . inch!"



# Factors Influencing Pain

- **Physical factors . . . .**
  - Level of consciousness
  - Pathway integrity
- **Psychological factors . . .**
  - Prior experience with pain or event
    - Degree of distraction
  - Initial learning / role models
  - Current expectations
  - Provider behavior



# Clinical Evaluation

- **History . . . . .**
  - **Onset**
  - **Character of the pain**
    - **Severity**
    - **Location**
    - **Timing**
  - **Factors increasing the pain**
  - **Factors decreasing the pain**
- **Characteristic patterns of the pain**



# Characteristic Patterns

- **Colicky . . . .**
  - **Intermittent**
    - **Waves**
    - **Cramping**
  - **Due to the distension of a viscus organ**
- **Burning . . . .**
- **Tearing / Ripping . . . .**
- **Knife – like . . . .**



# Characteristic Patterns

- Duration over six hours . . .
- Awakens in middle of the night . . .
- Stimulated by eating . . . .
- Altered by change in position . . .
- Shifting or radiation from the original site . . .
- Once **peritonitis** occurs . . . .
  - Pain is constant
  - Pain is diffuse
  - Rebounding quality



# Characteristic Patterns

- **Relation to usual bowel habits**
- **Menstrual history**
- **Prior abdominal surgery**
- **Prior / concurrent trauma**
- **Medical disorders**



# Abdominal Sites

- **Midepigastic . . . . .**
  - **Stomach**
  - **Duodenum**
    - **Aorta**
    - **Pancreas**
  - **Gall bladder**
- **Left Upper Quadrant . . . . .**
  - **Spleen**
  - **Kidney**
  - **Stomach**
  - **Adrenals**
    - **colon**



# Abdominal Sites

- **Right Upper Quadrant . . . .**
  - **Liver**
  - **Gall bladder**
  - **Duodenum**
  - **Kidney**
  - **Adrenal**
  - **Colon**



# Abdominal Sites

- Peri – umbilical . . . .
  - Pancreas
  - Stomach
  - Aorta
  - Appendix
  - Mesentery
- Meckel's diverticulum
  - Kidney
  - Small bowel



# Abdominal Sites

- **Right Lower Quadrant . . . .**
  - **Appendix**
  - **Ovary**
  - **Colon / cecum**
  - **Meckel's**
  - **Diverticular**
  - **Ectopic pregnancy**
  - **Endometriosis**
  - **Psoas abscess**
    - **Kidney**
- **Pelvic inflammatory disease**



# Abdominal Sites

- **Supra – pubic . . . . .**
  - **Urinary bladder**
    - **Uterine**
  - **Ectopic pregnancy**
  - **Endometriosis**
- **Pelvic inflammatory disease**
  - **Intra – uterine device**
    - **Mettleschmerts**
    - **Miscarriage**



# Abdominal Sites

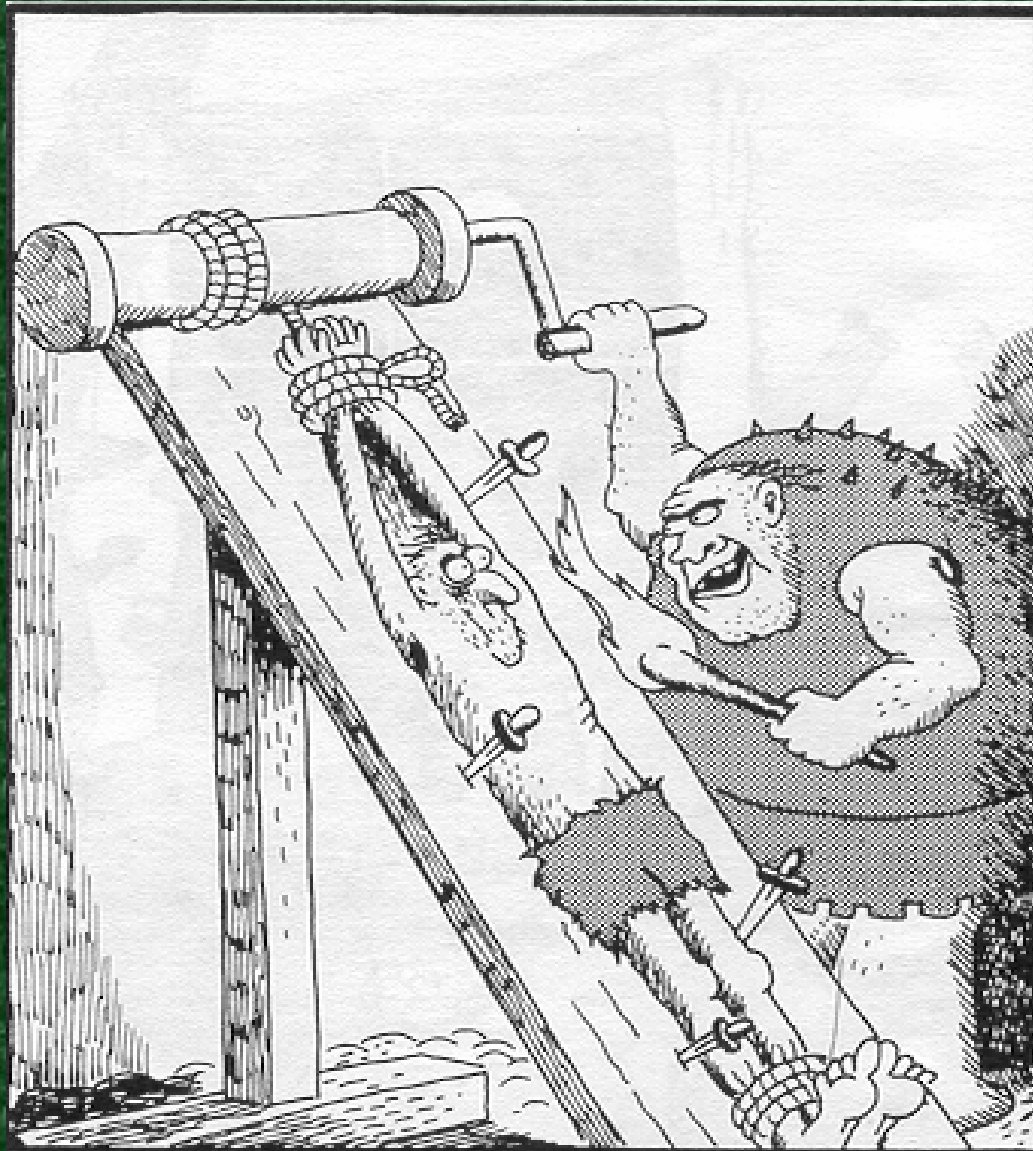
- **Left Lower Quadrant . . . .**
  - **Ovary**
  - **Colon / rectum**
  - **Kidney**
  - **Ectopic pregnancy**
  - **Endometriosis**
  - **Pelvic inflammatory disease**
    - **Diverticular**



## Other Factors

- **Age . . . . .**
  - **Appendix vs Gall Bladder**
  - **Ectopic Pregnancy vs diverticulitis**
  - **Intussusception vs Peptic Ulcer Disease**





"Still won't talk, huh? . . . Okay, no more Mr. Nice Guy."



# Physical Exam

- Patient's general appearance
- Patient's attitude / posture
- Patient's spontaneous movements
- Patient's skin character . . . .
  - Pallor
  - Diaphoresis
  - Temperature
- Level of consciousness



# Physical Exam

- **Develop a consistent approach . . . . .**
  - **Inspection**
  - **Auscultation**
  - **Percussion**
  - **Palpation**



# Physical Exam

- **Inspection . . . .**
  - **Body position**
  - **Limb position**
  - **Skin character**
  - **Distension**
  - **Devices**



# Physical Exam

- **Auscultation . . . .**
  - **Bowel sounds**
  - **Bruits**
  - **Borborrygmi**
  - **Succinctic splash**



# Physical Exam

- Percussion . . .
  - Tympany
  - Dull
  - Fluid wave
  - Pain
  - All four quadrants



# Physical Exam

- Palpation . . . .
- Begin away from the site of pain
- Light , superficial touch for hyper – aesthesia
- Include all sites of herniation
  - Deep Palpation . . .
- Muscular rigidity
- Guarding / rebound
- Organ size / mass
- Rectal and pelvic exam



# Protocol / Management

- ABC's
- Oxygen
- Monitor
- IVF / Saline lock / fluid bolus
  - Second IV as needed
- **No narcotics with undiagnosed abdominal pain !!!**
  - IV rate as per medical command



## Protocol / Management

- **Midepigastric pain can be cardiac ! ! !**
- **Trauma related pain can cause rapid physiologic changes in your patient ! ! !**
- **Cover open wounds , cover exposed bowel with saline dressing , do not push back inside ! !**
- **Entry and exit wounds**
- **Mechanism of injury needs to be documented**
- **Be prepared for occult severe injury in patients with ALOC**



# Hospital Management

- **Diagnostics**
  - **Laboratory**
  - **X – ray , nuclear imaging**
  - **CAT scan , with contrast unless looking only for organ fracture**
  - **Ultrasound**
  - **Peritoneal lavage**
  - **Vascular procedures**



# Hospital Management

- Laboratory . . .
- CBC , PT / PTT , type and cross , sickle cell prep
- SMA – 7 , liver function , amylase / lipase
- Pregnancy test , serum
- Urinalysis
- ABG
- Blood cultures , urine cultures
- Cultures of catheters / drains
- Cultures of draining fluids



# Hospital Management

- Procedures . . .
  - Large bore IV lines
  - Foley catheters
  - Colonoscopy / sigmoidoscopy
  - Retrograde pyelogram / cystoscopy
  - Diagnostic peritoneal lavage
  - Laproscopy
  - Surgical inspection , laparotomy and repair
  - Ventilation / oxygenation
  - Vasoactive drug support



# Hospital Management

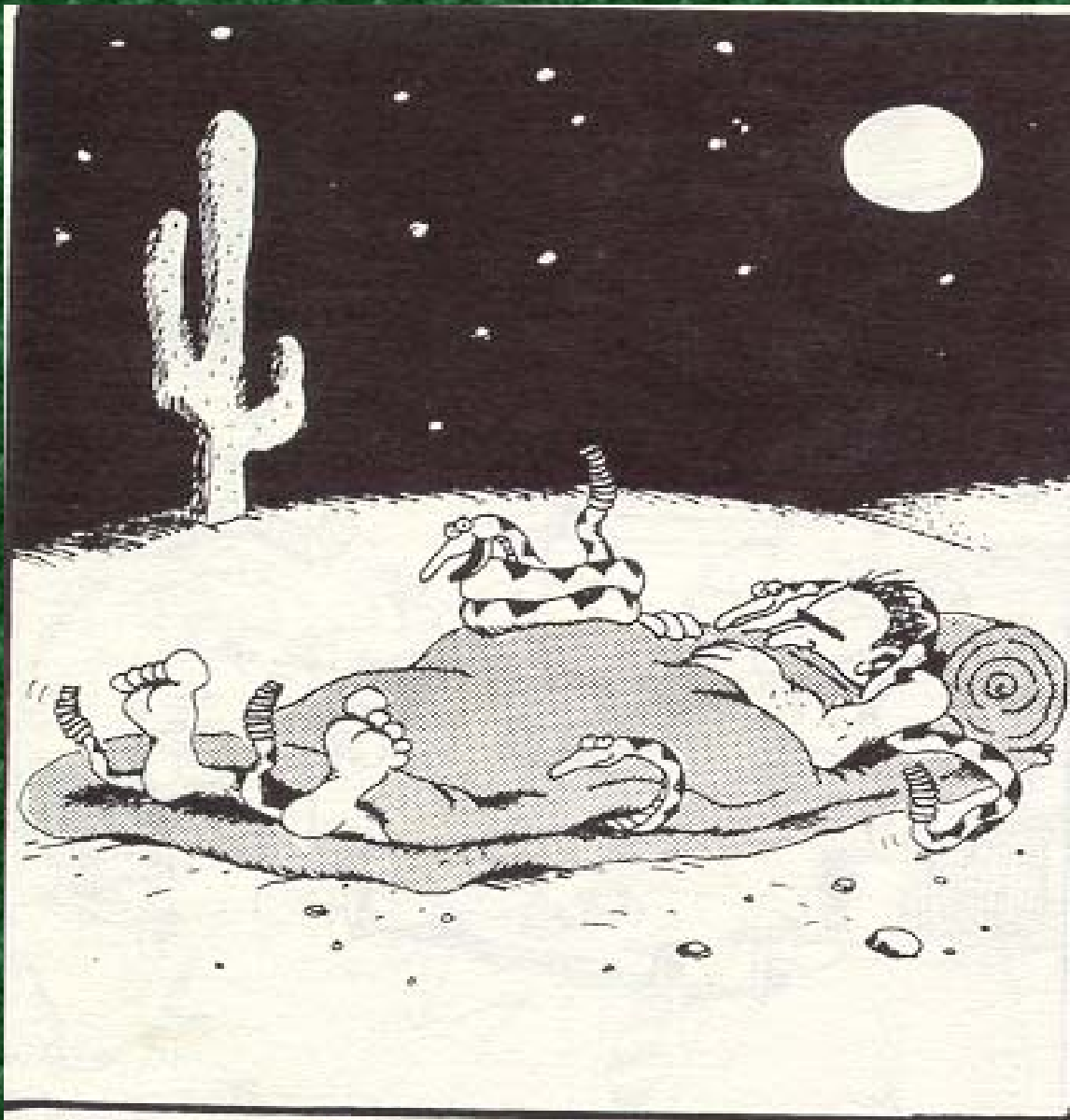
- **Assessment of other body sites**
- **Correction of medical conditions causing abdominal pain**
- **Treatment of infection**
- **Replacement of infected line / catheters**
- **Orthopedic management**
- **Rehabilitation**



# Hospital Management

- **Pain Control . . .**
  - **Not done very well / very difficult**
  - **Makes it difficult to have the patient tell you what is wrong**
  - **Lengthy diagnostics**
  - **Informed consent for procedures**
  - **Interferes with airway , physical assessment**
  - **Can require very large amounts of drug**
  - **Interferes with bowel function / recovery of function**





"Okay . . . On the count of three everybody rattles."