

Care of the Elderly Trauma Patient

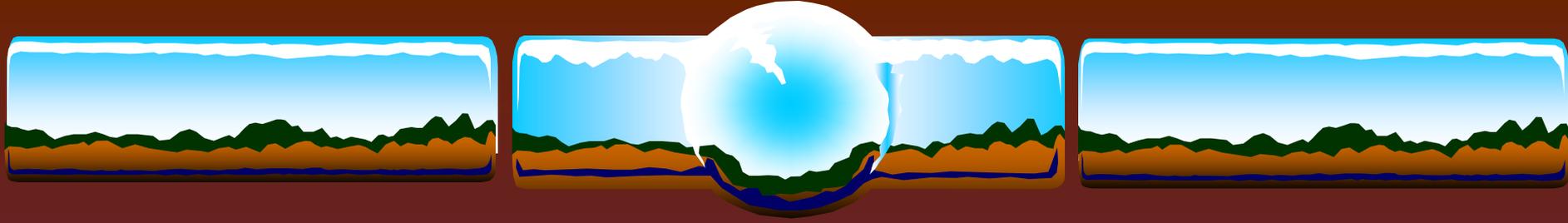
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Disclosures

Employed by VCU Health
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Objectives

- Define the elderly, aging, and old-old population
- Discuss the assessment findings in older patients with trauma
- Describe management and transport of the older trauma victim



Objectives

- Discuss the risk factors that make older people prone to falls
- Discuss essential components of assessing a fall
- Describe strategies used for prevention of falls

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Aging and Elderly Population in the United States

- Who are the Elderly?
- Who are the Aging?
 - What is Old?



Age of the Geriatric Patient?

50? 55, 60, 65 or 80??



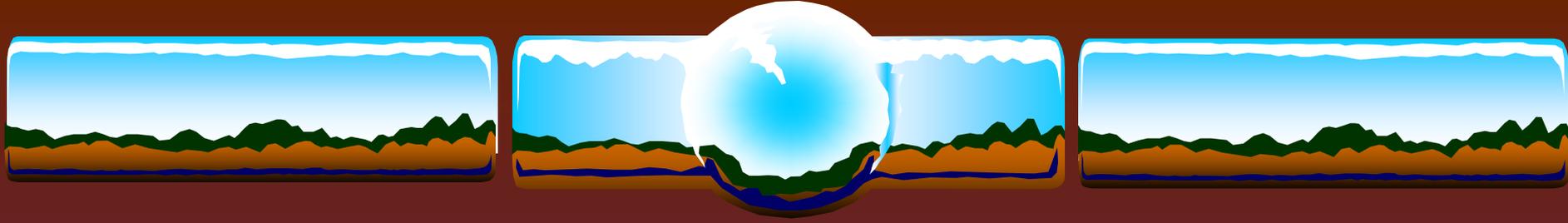
Some literature supports increased mortality from trauma at age 45, due to advance age



Lack of Uniformity in Studies

Elderly patient is most commonly defined as 65 or older.

The Old-Old patient is most commonly defined as 80 or older.

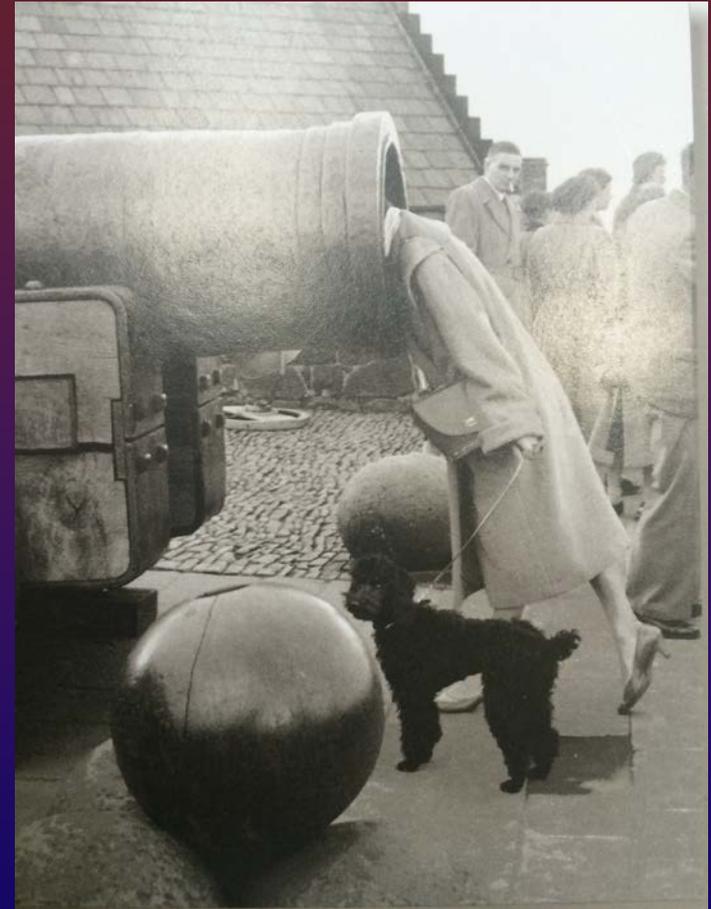


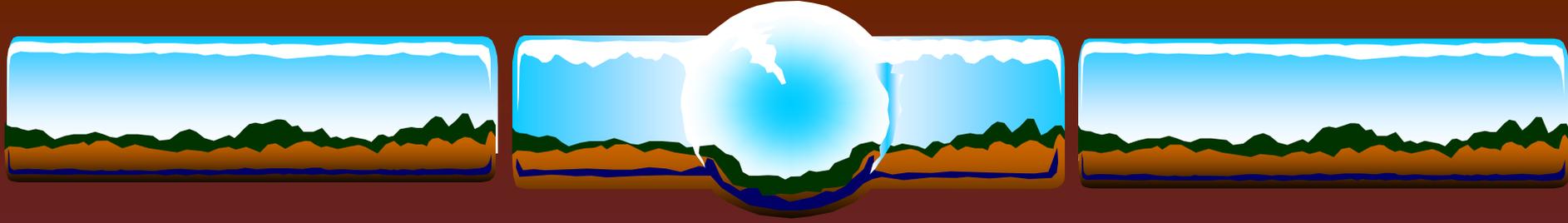
Increasing Population

The Population over the age of 65
increases annually and will
exceed 20% by 2040

Increased Trauma

- It is estimated by 2050
- 39% of all trauma will be 65 or older

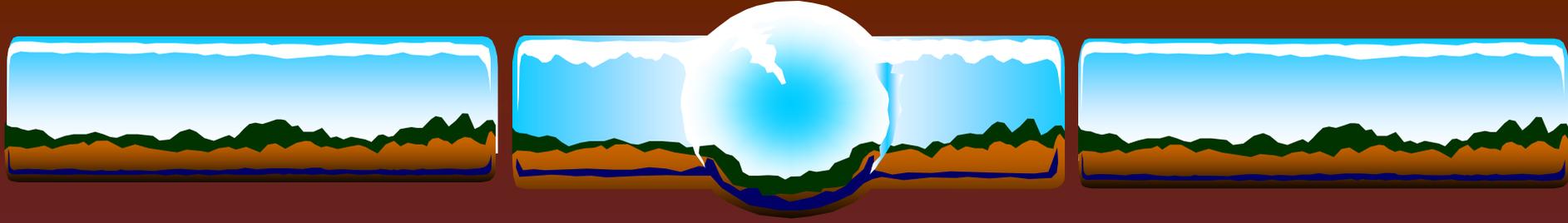




Geriatric Trauma

Increased morbidity and mortality

Most likely due to increased
comorbidities



Geriatric Trauma

Injuries result in complications and major disabilities requiring longer stays and consumption of health care resources



Triage of the Geriatric Patient

Triage as it relates to the geriatric patient should make every attempt to provide the patient with the appropriate intensity of medical resources based on severity of injury.



What do the Studies Say?

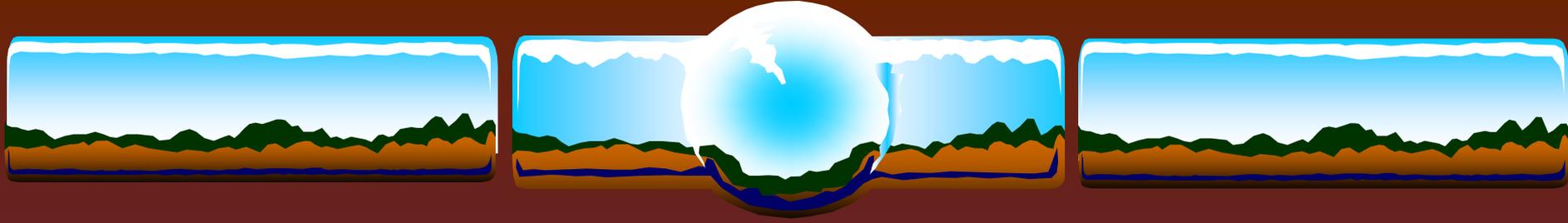
No concise definition of trauma in the geriatric patient

Some injury studies include all trauma patients over a certain age



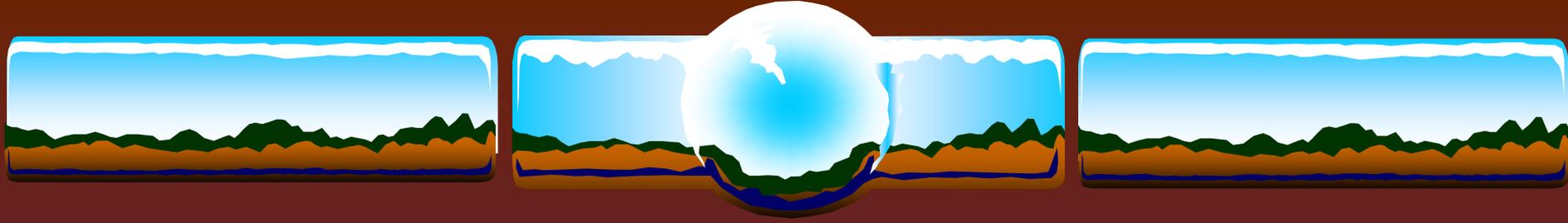
Other Studies Exclude

Patients with penetrating injuries,
burns, or minor injuries, such as
slip and falls



Recommendations

Advanced Patient Age should lower the threshold for field triage directly to a trauma center.



Recommendations

All other factors being equal, advanced patient age, in and of itself, is not predictive of poor outcomes following trauma...

And therefore should NOT be used as the sole criterion for denying or limiting care in this patient population

It's scary when
you start
making
the same noises
as your
coffeemaker!



Changes in the Body with Age

How They Affect Our Trauma Assessment



Affects of Aging



↓ Brain mass

Eye disease

↓ Depth perception

↓ Discrimination of colors

↓ Pupillary response

↓ Respiratory vital capacity

↓ Renal function

2- to 3-inch loss in height

Impaired blood flow to lower leg(s)

Degeneration of the joints

↓ Total body water

Nerve damage (peripheral neuropathy)

Stroke

Diminished hearing

↓ Sense of smell and taste

↓ Saliva production

↓ Esophageal activity

↓ Cardiac stroke volume and rate

Heart disease and high blood pressure

Kidney disease

↓ Gastric secretions

↓ Number of body cells

↓ Elasticity of skin

Thinning of epidermis

↓ 15%-30% body fat



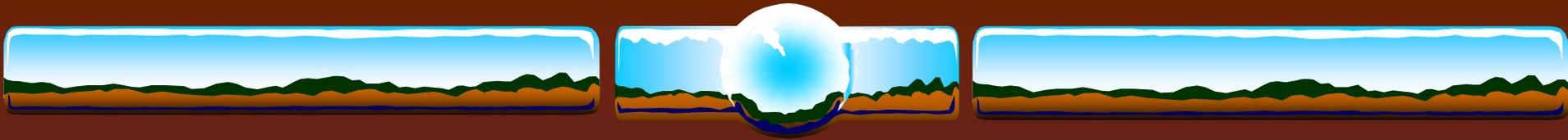
Aging Body Systems

- Cardiovascular
- Respiratory
- Renal
- Musculoskeletal
- Gastrointestinal



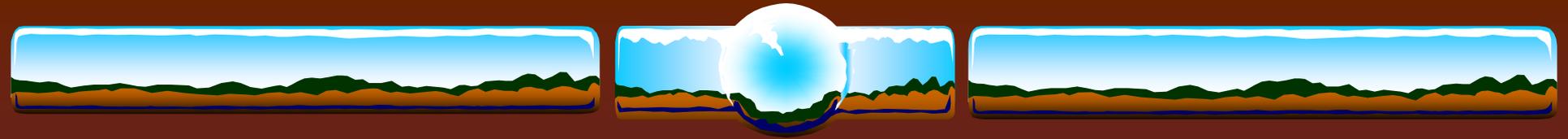
Cardiovascular System Changes

- Increased peripheral vascular resistance
- Atherosclerosis narrows vessel lumen
- Incidence of thrombosis increased
- Postural hypotension more common



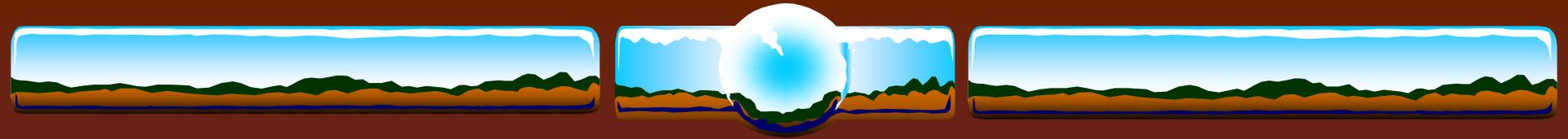
Cardiovascular System Changes

- Cardiac output decreases by 30%
- Electrical conduction system weakened
- Hypotension does not manifest in tachycardia



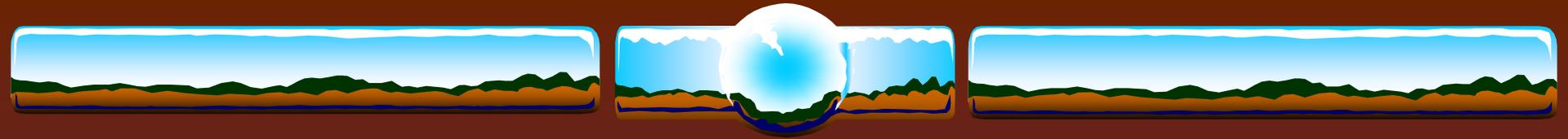
Respiratory System Changes

- Changes depend on previous fitness levels and damage done in earlier life
- Chest wall compliance decreases



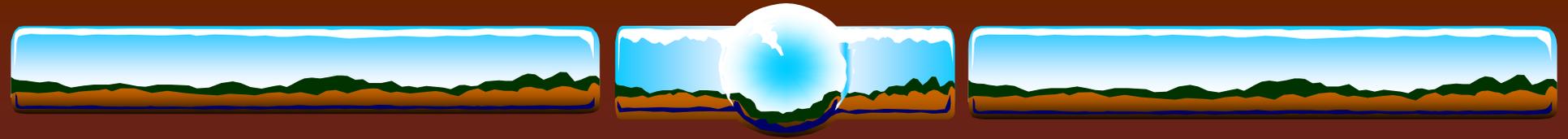
Respiratory System Changes

- Decreased overall vital capacity and residual volume
- Loss of cilia
- Diminished cough reflex



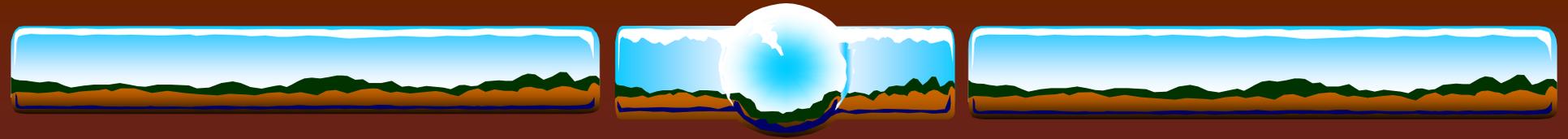
Renal System Changes

- Loss of nephrons
- Renal blood flow decreased
- Decreased kidney mass
- Decreased filtration



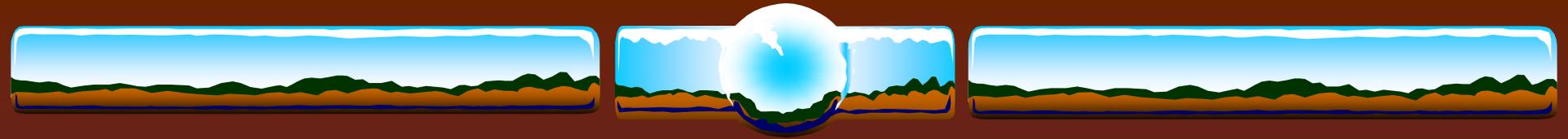
Renal System Changes

- Decreased thirst causes dehydration
- Alterations in drug filtration and elimination
- Urinary incontinence common



Musculoskeletal Changes

- Thinning of vertebrae and intervertebral discs causing kyphosis and immobility
- Reduction in lean muscle mass
- Decreased bone mineral mass



Musculoskeletal Changes

- Decreased muscle strength
- Joint immobility
- Height decreases by 2-3 inches



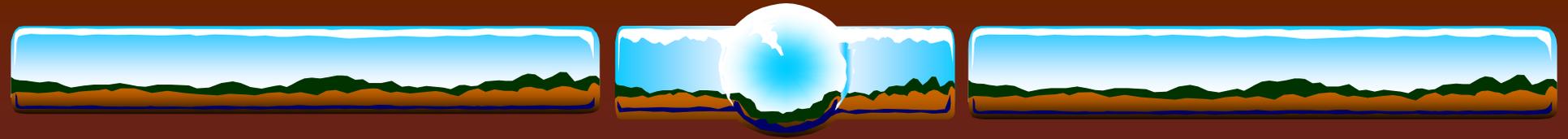
Gastrointestinal System Changes

- Lost teeth require dentures to maintain nutrition and communication
- Gastric motility decreased – N/V
- Hepatic circulation diminished, changing drug metabolism



Sensory System Changes

- Vision changes at age 40 worsen every year
- Visual changes cause difficulty with reading, depth perception, color vision, clarity of vision
- Decreased ability to hear high frequency sounds



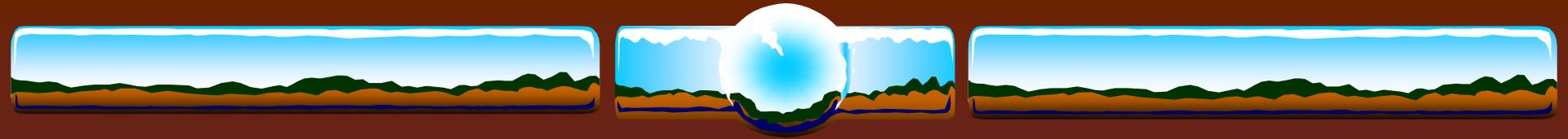
Sensory System Changes

- Inability to distinguish background noise from speech and primary conversation
- Sensory system changes predispose patient to trauma

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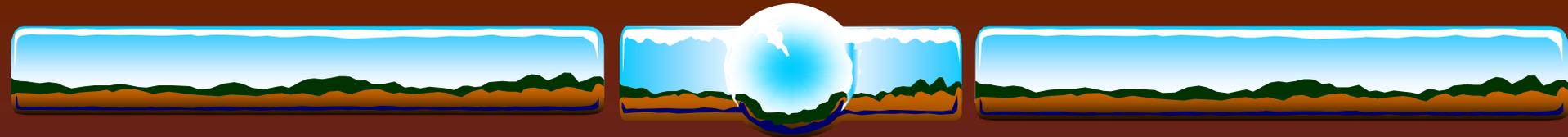
What makes the elderly more susceptible to trauma?

- Sight and hearing difficulty
- Altered sensorium
- Loss of calcium and bone integrity
- Diminished reflexes
- Loss of elasticity in peripheral vessels



Co-Morbid Conditions

- Atrial Fibrillation
 - Coumadin
 - Digoxin
- Hypertension
 - Beta Blockers
 - ACE Inhibitors



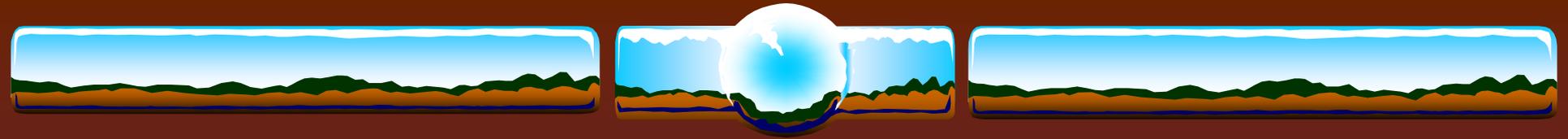
Co-Morbid Conditions

- Diabetes
 - Insulin
 - Glucatorol and others
- Lung Disease
 - Inhalers
 - Oxygen Dependent



How Aging Affects Trauma

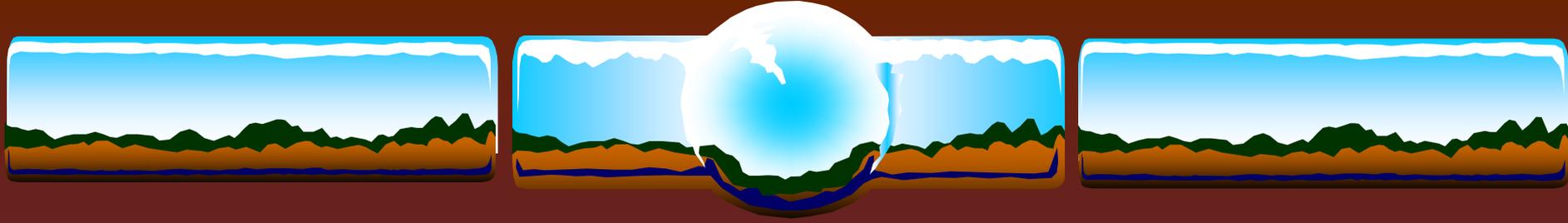
- Decreased pulmonary function and abilities
- Hard to increase cardiac output
- Brain shrinkage allows bleeding.
- Musculoskeletal system changes increase chance of injury.



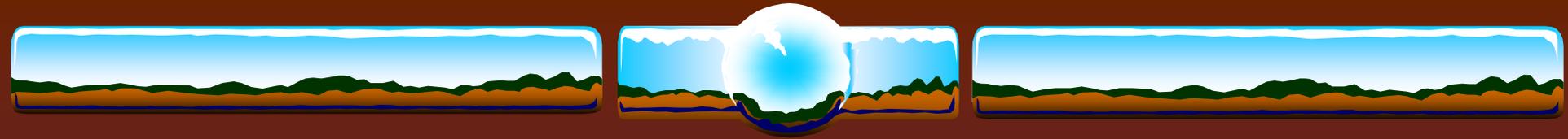
Alcohol

- Decreased Liver Function
- Further Diminished Reaction Times
- Exacerbates Co-morbid issues
- Medications Reactions





Approaching the Elderly Trauma Victim



Patient Complaint in the Elderly

Chief Complaint

V.S.

Primary Problem

How to differentiate between the two



Communicating with the Elderly

- Do not assume hearing loss
- Allow use of hearing aids
- Ask one question at a time
- Allow only one interviewer to avoid confusion
- Stay in patient's line of sight



Communicating with the Elderly

- Encourage use of eyeglasses. Read information to the patient when necessary
- Keep patient informed
- Use formal address
- Use age appropriate language



Complications of physical exam in the elderly patient

- Effects of aging or consequence of injury
- Poor historians
- Multiple medical problems



Complications of physical exam in the elderly patient

- Diminished sense of pain
- Alteration in thermoregulation
- Social/emotional factors



Assessment of the Older Trauma Patient

- Early baseline vitals
- SAMPLE history
- New pain or old
- Physical exam
- Must include medical evaluation
- Repeat VS often





ABCDEs for the Older Patient

- Airway: Dentures and lessened cough reflex
- Breathing: Checking chest wall and respiratory drive
- Circulation: Quality of pulses
- Disability: Evaluating the patient's norms
- Exposure: Modesty and hypothermia



Other Considerations

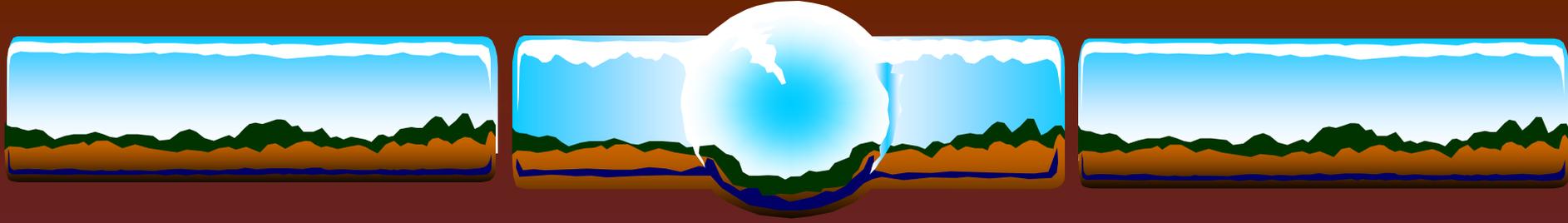
- Conditions that may alter physical assessment:
 - Cataracts or asymmetrical pupils
 - Previous CNS insult
 - Previous surgeries
 - Decreased pain response





Environmental Issues

- Hypo/hyperthermia problems due to unstable temp. regulations
- Need more light to be stimulated
- Medications affecting thermoregulation
- Poor nutrition/inadequate fluid intake



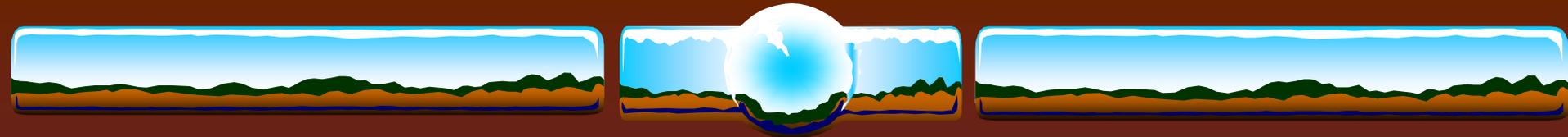
Injury Patterns

Leading Cause of Death

Falls

MVC

Burns



Injury Patterns

- Burns are associated with activities of daily living
- Fewer MVCs, but with more severe injuries
- Penetrating trauma is less common



Risk Factors for Falls and Injuries

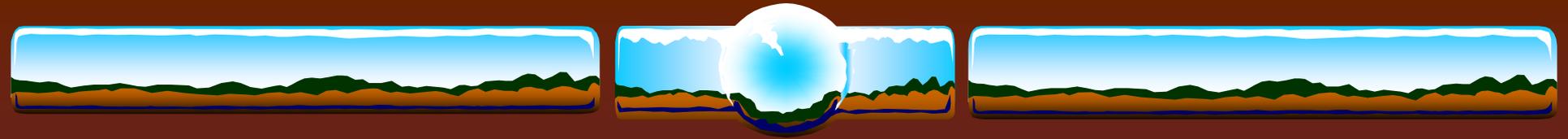
- Sensory impairment
- Brain diseases that affect balance
- Dementia
- Musculoskeletal disorders
- Medications
- Advanced age



Assessing a Fall Patient

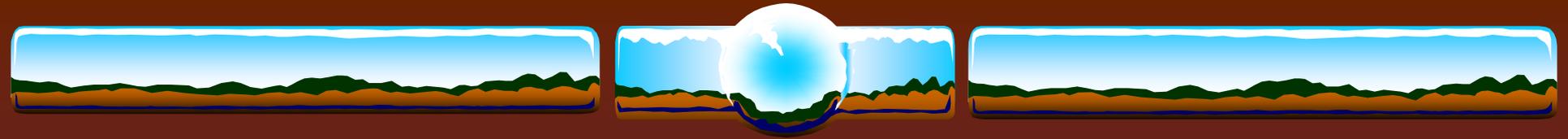
- Symptoms
- Previous falls
- Location of fall
- Activity at time of fall
- Time of fall
- Trauma, both psychological and physical





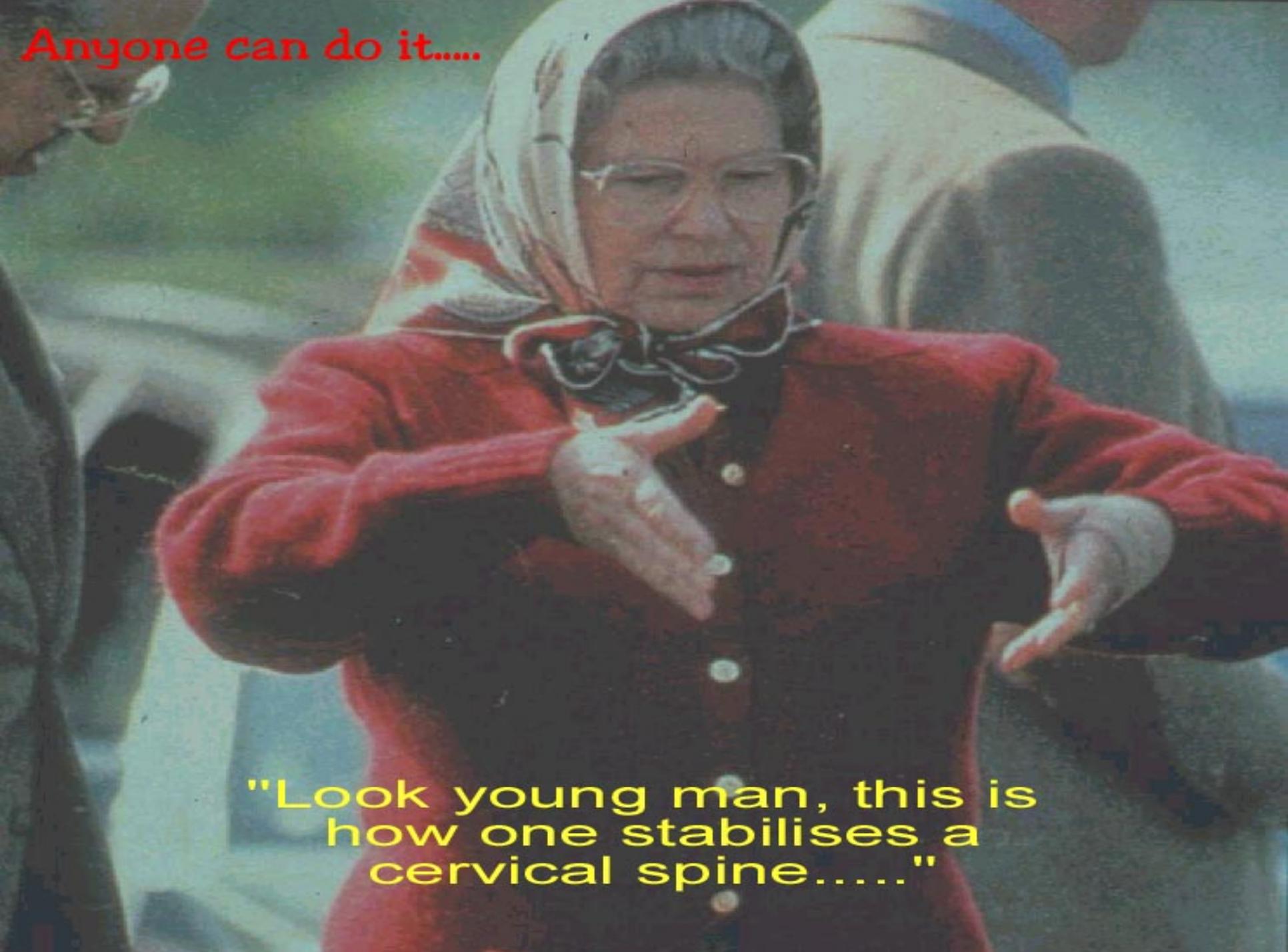
Management

- Treatment based on ABCs
- Early spinal immobilization with padding
- Oxygen based on history



Management

- Prevention of hypothermia
- Rapid transport to appropriate center
- IV access and cardiac monitoring



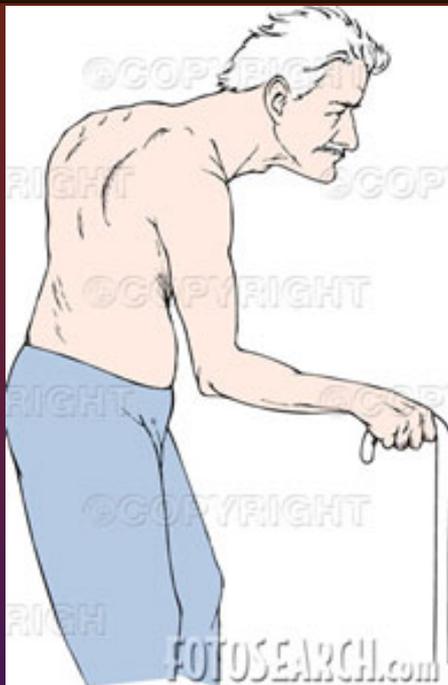
Anyone can do it.....

"Look young man, this is how one stabilises a cervical spine....."



Spinal Injuries

- Assessment
 - Nexus Study
- Selective Spinal Immobilization
 - Is age a disqualifier?
 - Alternative to Backboard?





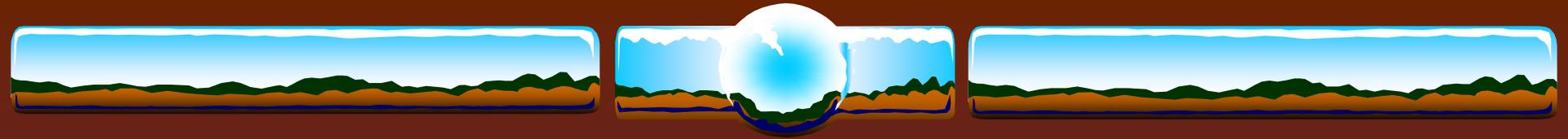
We' ll Straighten You Out in No Time!





Padding the Kyphotic Spine





Head Injuries

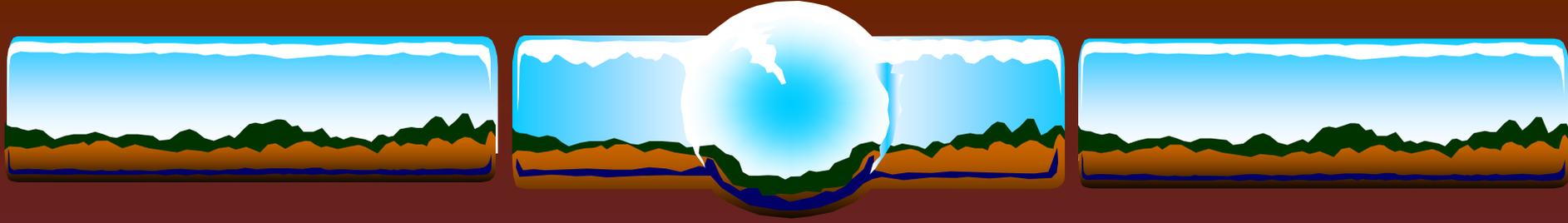
- Bleeding a bigger problem
- Assume any altered mental status is acute
- Head Injury equals c-spine injury until proven otherwise





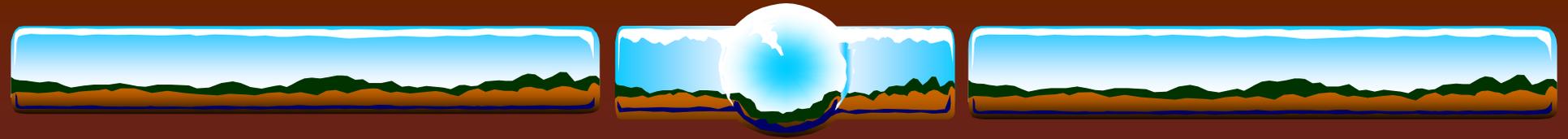
Musculoskeletal Injuries

- Thoracic and lumbar spine injuries increase
- Upper extremities have high loss of function
- Less able to tolerate pelvic injuries
 - Hip fractures = high mortality rate
- Lower extremity fractures occur with less force



Bariatric and Geriatric

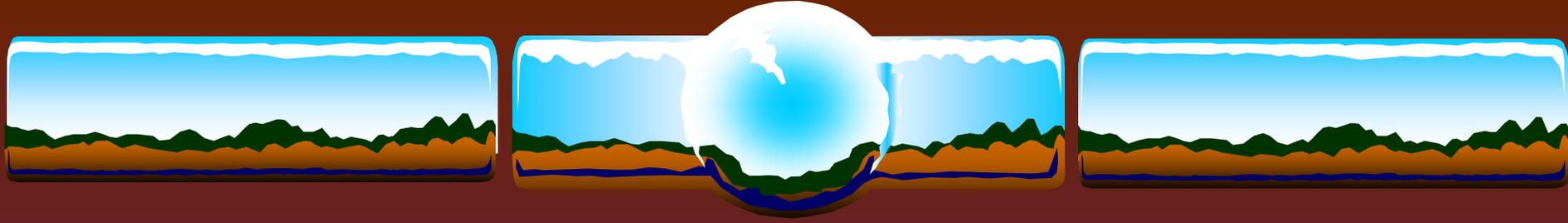
Only increases a bad situation



Bariatric and Geriatric

- Right size equipment for age and size
- Airway issues





End of Life Decisions

Living Wills

Advanced Directives

Similar documentation

Looking at the Whole Story

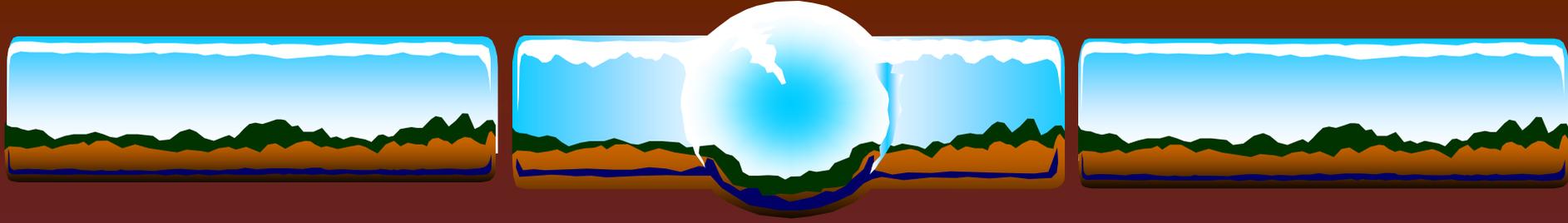
- One patient might really be two patients
- Who is the care giver
- Know your resources in advance
- Develop a plan
- Ask good questions





Summary

- Its down hill both ways to getting older
- Understand the diseases of the elderly
- Know the effects of medication on the elderly
- Have a higher index of suspicion for injury
- Treat them more aggressively despite the absence of classic signs and symptoms



Questions?

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