

EARN CE CREDIT AT HOME

You will be awarded one continuing education (CE) credit for recertification after reading the designated article and completing the exam with a score of 70% or better.

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Detach or photocopy the answer block, include your check or money order (\$6 for members or \$10 for non-

Continuing Education Examination (November 1999) A History of the Specialty of Orthopaedics

173
Category 1

Certified Member

Certified Nonmember

Certification No. _____

Name _____

Address _____

City _____

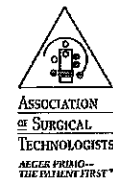
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Mark one box next to each number. Only one correct or best answer can be selected for each question.

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AST, 6 West Dry Creek Circle, Suite 200, Littleton, CO 80120-8031.

CE EXAM

- Which was not used in primitive times to splint fractures?
 - clay
 - bark
 - plaster
 - rawhide
- The Hammurabi Code outlined _____?
 - types of incantations
 - penalties for poor treatment
 - procedures for limb amputation
 - anatomy and physiology
- Whose book on fractures was the most physiologically and anatomically accurate?
 - Hammurabi
 - Edwin Smith
 - Hippocrates
 - Sustra
- Why did medical advances decline after the 15th century?
 - Only priests studied Latin.
 - There were no medical schools in Western Europe.
 - Church leaders believed sickness was a penalty for sin.
 - All of the above.
- Why were physicians prevented from performing surgery?
 - The church was afraid of scandal.
 - Saints healed most of the sick.
 - Physicians didn't have good schools.
 - Most people couldn't afford surgery.
- Duties of a barber included _____.
 - pulling teeth
 - bloodletting
 - setting broken bones
 - All of the above.
- Physicians duties included _____.
 - bloodletting
 - treating internal conditions
 - mixing medications
 - setting broken bones
- Which two guilds combined in 1540?
 - surgeons and barbers
 - barbers and bonesetters
 - surgeons and physicians
 - druggists and apothecaries
- The term orthopaedic was coined by _____.
 - Robert Jones
 - Hugh Owen Thomas
 - Nicholas André
 - John Hunter
- The addition of fractures to the specialty of orthopaedics was caused initially by which event?
 - The first orthopaedic hospital
 - The discovery of X-rays
 - The Manchester Ship Canal
 - Better anesthetic

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Continuing Education Examination (April 2000) Osteoporosis Unveiled: Answers to Your Questions

181
Category 1

Certified Member

Certified Nonmember

Certification No. _____

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CE EXAM

- What does the term rarefaction mean?**
 - Calcium deficiency
 - Being or becoming less dense
 - Postmenopausal
 - Unusually poor prognosis
- Idiopathic means:**
 - Low IQ
 - Condition originating from oneself
 - Condition without a known cause
 - Both B and C
- Osteocytes are:**
 - Responsible for bone building
 - Responsible for bone remodeling
 - Mature bone cells
 - None of the above
- Calcium deposits are found:**
 - Within the osteocytes
 - Within the intercellular material
 - At the epiphysis
 - Within the Haversian canals
- Which type of osteoporosis is most common in women?**
 - Type I
 - Type II
 - Juvenile Type
 - Type associated with osteogenesis imperfecta
- What is the maximum safe dose of calcium for most adults?**
 - 1,200 mg
 - 1,000 mg
 - 2,000 mg
 - 500 mg
- What type of drug is Raloxifene?**
 - ERT/HRT
 - ERT
 - HRT
 - SERM
- Deep vein thrombosis is a side effect associated with which osteoporosis drug?**
 - Raloxifene
 - Alendronate
 - Estrogen
 - Calcitonin
- Which diagnostic exam is most commonly used to measure bone mass?**
 - Ultrasonic Densitometry
 - DEXA
 - PDXA
 - SXA
- How many men in the US are affected by osteoporosis?**
 - 2 million
 - 3 million
 - 1 million
 - Osteoporosis does not affect men

185 AUGUST 2000 CATEGORY 3

CE Exam

CONTINUING EDUCATION EXAMINATION

IntraDiscal ElectroThermo Therapy™: A novel approach to lumbar disc degeneration and herniation

Earn CE credit at home

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Members: \$6 per CE, nonmembers: \$10 per CE

- Which of the following represent the correct number of vertebrae for the corresponding region of the spine?
 - 12 Cervical vertebrae
 - 7 Lumbar vertebrae
 - 5 Sacral vertebrae
 - 6 Coccygeal vertebrae
- What is the average diameter of the lumbar spinal canal?
 - 20-25 mm
 - 15-25 mm
 - 15-17 mm
 - 17-23 mm
- What is the inner core of the intervertebral disc called?
 - Nucleus pulposus
 - Annulus fibrosis
 - Ligamentum flavum
 - Atlanto-occipital Membrane
- The term normal lordotic refers to ____?
 - Ventral convexity of the spine
 - Dorsal convexity of the spine
 - Lateral convexity of the spine
 - Medical convexity of the spine
- The nucleus pulposus contains ____ percent water which decreases with age.
 - 20-30
 - 50-60
 - 70-80
 - 80-90
- What fiber molecules are held together by a heat sensitive bond within the annular wall?
 - Ligamentous
 - Collagen
 - Cartilaginous
 - Muscular
- While inserting the spinal needle, radicular pain indicates _____.
 - The thoracolumbar fascia has been entered
 - Contact with a nerve root
 - More anesthetic is needed
 - Needle entry too close to midline
- How many centimeters lateral to the midline are the spinal needles introduced through the skin?
 - 4 cm
 - 0 cm
 - 10 cm
 - 6 cm
- To what degree is the disc space heated by the IDET™ procedure?
 - 100° C
 - 75° C
 - 95° F
 - 90° C
- Heavy work or aggressive physical exercise may be resumed _____ post operatively.
 - One month
 - One year
 - Three months
 - Six months or more

185 AUGUST 2000 CATEGORY 3

IntraDiscal ElectroThermo Therapy™

		a	b	c	d		a	b	c	d
<input type="checkbox"/> Certified Member	<input type="checkbox"/> Certified Nonmember	1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Certification No _____		2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name _____		3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Telephone _____										

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190 NOVEMBER 2000 CATEGORY 1

CE Exam

CONTINUING EDUCATION EXAMINATION

Posterior spinal surgery

Earn CE credit at home

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Members: \$6 per CE, nonmembers: \$10 per CE

- Which physician and philosopher proved that interruption of the spinal cord caused paralysis?
A. Aretaeus B. Oribasius
C. Galen D. Hippocrates
- In what year did Albee and Hibbs report a successful fusion?
A. 1911 B. 1920
C. 1897 D. None of the above
- According to Harrington, instrumentation in the spine would need to withstand _____ cycles of loading before fatigue?
A. Four thousand B. One hundred
C. Seven million D. One billion
- Which surgeon developed the sublaminar wiring technique?
A. Jacobs B. Harrington
C. Luque D. Both B and C
- When was the Cotrel-Dubousset instrumentation introduced?
A. 1983 B. 1987
C. 1984 D. 1978
- Who developed the posterior cervical plating system?
A. Edwin Smith B. Guido Lanfranc
C. Roy-Camille D. CL Edwards
- What was the earliest known document that described surgical procedures of the spine?
A. Talmud B. Edwin Smith papyrus
C. Old Testament D. Galen's diaries
- Segmental fixation of the spine when a technique developed by _____ involved placing buried steel rods in the back were fixed to the spinous processes with wires.
A. Fritz Lange B. Rea Jacobs
C. Roy-Camille D. Cotrel-Dubousset
- In Ancient Greece, who discussed the nature of dislocation of the vertebrae and its relationship to paralysis?
A. Aretaeus of Cappadocia
B. Celsius
C. Hippocrates
D. Oribasius
- _____ is a truly universal spinal instrumentation system that is applicable to any area of the spine and to any spinal pathology for which corrective instrumentation is indicated.
A. Louis Plates
B. Texas Scottish Rite Hospital Spinal System
C. Luque wires
D. Harrington rods

190 NOVEMBER 2000 CATEGORY 1

Posterior spinal surgery

Certified Member

Certified Nonmember

Certification No _____

Name _____

Address _____

City _____ State _____ ZIP _____

Telephone _____

	a	b	c	d		a	b	c	d
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191 NOVEMBER 2000 CATEGORY 3

CE Exam

CONTINUING EDUCATION EXAMINATION

The Ilizarov technique

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Members: \$6 per CE, nonmembers: \$10 per CE

- Which elements of the Ilizarov frame are used to stabilize bony fragments?
 - connectors
 - telescoping rods
 - transosseous wires
 - half pins
- _____ is hard compact connective tissue used for protection and support.
 - endosteum
 - cancellous tissue
 - cortical tissue
 - trabeculae
- Which tissue appears as a honeycomb (trabeculae)?
 - cortical
 - cancellous
 - red bone marrow
 - lamellae
- _____ break down osseous tissue.
 - red blood cells
 - canaliculi
 - osteoblasts
 - osteoclasts
- Which is not true about fracture repair?
 - a fracture hematoma forms at the site
 - blood flow to injured cells cease
 - osteoprogenitor cells form trabeculae
 - cancellous bone replaces compact bone in the callus
- Which is not true about a callus?
 - can be divided into internal and external regions
 - accepts mineral deposits
 - connects severed ends of bone
 - contains osteoblasts that form trabeculae
- Which is connected with the telescoping rods to allow for distraction and compression techniques.
 - inner rings
 - outer rings
 - threaded rods
 - half circles
- Which are mismatched?
 - patient size/wire diameter
 - frame stiffness/fragment shifting
 - plain wires/ range of motion
 - olive wires/stabilization
- Which is a factor in wire placement?
 - neurovascular structures
 - range of motion
 - fracture line
 - all of the above
- Which are mismatched?
 - wire tension/100-130 kg of force
 - regenerate/7-10 mm per day
 - nonunion/osteotomy
 - 3 of 4 ossifications/ stress test

191 NOVEMBER 2000 CATEGORY 3

The Ilizarov technique

Certified Member

Certified Nonmember

Certification No _____

Name _____

Address _____

City _____ State _____ ZIP _____

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192 NOVEMBER 2000 CATEGORY 3

CE Exam

CONTINUING EDUCATION EXAMINATION

Fat embolism: a complication of long bone fracture

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- FES is a condition that develops when:
 - milk is ingested
 - droplets of fat act as emboli
 - air is introduced into the ventricles of the brain
 - air is introduced into the ventricles of the heart
- Who was the first to combine experimental, clinical, and pathological observations to identify the presence of fat embolism?
 - Scriba
 - Lower
 - Magendie
 - Wagner
- The three main clinical features of fat embolism are _____.
 - cerebral dysfunction, decreased urinary output, and respiratory failure
 - respiratory failure, decreased bowel motility, and decreased urinary output
 - respiratory failure, presence of petechiae, and cerebral dysfunction
 - presence of petechiae, cerebral dysfunction, and paralysis of the upper extremities
- Fat found in the _____ and/or _____ may be used as a diagnostic indicator.
 - Sputum
 - Urine
 - Neither A or B
 - Both A and B
- What are the two pathological types of fat embolism?
 - Hemorrhagic and thrombotic
 - Respiratory and cerebral
 - Cerebral and systemic
 - Pulmonary and systemic
- In 90 percent of cases of fat embolism, the condition manifests itself within _____.
 - 24 hours
 - 72 hours
 - 48 hours
 - 1 week
- The first indications of FES may be _____.
 - coma and cyanosis
 - petechiae covering the upper half of the body and tachypnea
 - restlessness and vague chest pain
 - confusion and delirium
- Minor to moderate fat embolism syndrome is of little or no clinical importance due to:
 - the fact that it has not become systemic
 - the enormous capillary bed and the large functional reserves within the lungs
 - the fact that the fat is expelled in the sputum and excreted in the urine
 - the kidneys are the only organ system affected
- How is it possible for the fat to move through the lungs and enter systemic circulation?
 - Due to the liquid nature of the fat globules and capillary pressure
 - It is not possible for the fat to move through the lungs and enter systemic circulation
 - New emboli are introduced directly into the arteries
 - The patient will always die from the pulmonary embolism, therefore it is impossible for the embolism to become systemic
- The severity of systemic embolism is directly dependent on _____.
 - Impossible to determine, even upon autopsy
 - The amount of total body fat
 - The degree of pulmonary embolism and the nature of the injury
 - Fatty degeneration of the liver

192 NOVEMBER 2000 CATEGORY 3

Fat embolism: a complication of long bone fracture

Certified Member

Certified Nonmember

Certification No _____

Name _____

Address _____

City _____ State _____ ZIP _____

Telephone _____

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201 MAY 2001 CATEGORY 3

CE Exam

CONTINUING EDUCATION EXAMINATION

Posterior spinal surgery: 20th century advances

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- Pedicle screw fixation relies on _____ for fixation.
 - distraction
 - compression
 - posterior elements
 - none of the above
- Which system uses three different spacer washers to achieve level metal-to-metal contact between the plate and screw shank?
 - Wilste
 - VSP
 - Vermont
 - AO
- Who developed the first practical method of placing a transpedicular screw?
 - Boucher
 - Harrington
 - Roy-Camille
 - Schlapfer
- Dynamic compression plates allowed _____.
 - screws to be angled in any direction
 - internal fixation
 - rods to be attached
 - removal of facet joints
- The bending strength of a screw is proportional to _____.
 - core diameter
 - screw length
 - screw orientation
 - effective thread diameter
- _____ is a drawback of transpedicular external fixation:
 - pin tract infection
 - accidental penetration of vertebral body
 - protrusion of the device
 - all of the above
- Which system was designed to allow for micromotion between the screw and rod?
 - Vermont
 - ESSF
 - Purno-Winter-Byrd
 - Edwards
- Which pair is mismatched?
 - Sacral fixation device/no compression or distraction
 - Rod-sleeve method/hook dislodgement
 - Harrington Rods/no rotational control
 - Harrington Rods/hook dislodgement
- Combining _____ made it possible to apply corrective forces and maintain stable fixation in all directions.
 - moveable clamps and Schanz screws
 - bidirectional ratcheting rods and adjustable connectors
 - L-shaped hooks and ratcheting rods
 - rod-sleeve spacers and adjustable connectors
- The _____ construct is best for thoracolumbar fractures.
 - compression
 - D-L
 - Rod-sleeve
 - Spondylo

201 MAY 2001 CATEGORY 3

Posterior spinal surgery: 20th century advances

Certified Member

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215 MAY 2002 CATEGORY 1

CE Exam

CONTINUING EDUCATION EXAMINATION

Bone healing

Earn CE credit at home

You will be awarded one continuing education (CE) credit for recertification after reading the designated article and completing the exam with a score of 70% or better.

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Detach or photocopy the answer block, include your check or money order made payable to AST and send it to the Accounting Department, AST, 6 West Dry Creek Circle, Suite 200, Littleton, CO 80120-8031.

Members: \$6 per CE, nonmembers: \$10 per CE

- 1 Under optimal circumstances, complete healing of a bone fracture takes _____.
 - a 4-6 weeks
 - b 8-12 weeks
 - c 4-6 months
 - d 1 year
- 2 The inflammatory stage of normal bone healing begins at injury and lasts approximately _____.
 - a two days
 - b seven days
 - c 10 days
 - d two weeks
- 3 In which stage do osteoblasts form a matrix of collagen that invades the periosteal callus, bridging the fractured bone?
 - a cellular proliferation
 - b callus formation
 - c ossification
 - d remodeling
- 4 Osteomyelitis is _____.
 - a decreased blood supply
 - b wound contamination
 - c inflammation of bone and marrow
 - d a disrupted vascular system
- 5 Avascular necrosis can be caused by _____.
 - a steroid use
 - b diabetes
 - c disease
 - d all of the above
- 6 Which is not a cause of malunion?
 - a inadequate reduction
 - b patient noncompliance
 - c inadequate immobilization
 - d all are causes
- 7 _____ is softening of the bone due to inadequate or delayed mineralization.
 - a osteomyelitis
 - b osteomalacia
 - c calcitonin
 - d bone coagulation
- 8 Which type of cell is responsible for the destruction and resorption of bone?
 - a osteoclast
 - b osteoblast
 - c osteocyte
 - d fibroblast
- 9 _____ allows for the attachment of tendons.
 - a endosteum
 - b parathyroid hormone
 - c calcitonin
 - d periosteum
- 10 _____ are not actual bone replacements, but are structural "scaffolds" to encourage new growth.
 - a ORIF devices
 - b bone fillers
 - c allografts
 - d xenografts

215 MAY 2002 CATEGORY 1

Bone healing

Certified Member

Certified Nonmember

Certification No _____

Name _____

Address _____

City _____ State _____ ZIP _____

Telephone _____

	a	b	c	d		a	b	c	d
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Mark one box next to each number. Only one correct or best answer can be selected for each question.

216 JUNE 2002 CATEGORY 1

CE Exam

CONTINUING EDUCATION EXAMINATION

Anterior cervical fusion

Earn CE credit at home

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- Which pair is mismatched?
 - C1:the atlas
 - C3:the axis
 - C2:the axis
 - C1-C7:cervical vertebrae
- The _____ is a fibrous ring-like structure.
 - nucleus
 - atlas
 - axis
 - annulus
- Which is the weakest link of the annulus?
 - posterolateral margin
 - nucleus
 - transverse foramina
 - anterolateral margin
- According to Kelaey, which age group was most affected by acute cervical disc herniations?
 - 40s
 - 50s
 - 60s
 - >70
- Which is not a presenting symptom of potential ACF patients?
 - headache
 - arm pain
 - shoulder pain
 - all are presenting symptoms
- The Gardner Wells Tongs and weights accomplishes what?
 - avoids the need for distraction pins
 - cervical distraction
 - avoids the need for AGF blood machine
 - both a and b
- Surgeons may choose a left-sided approach because of the location of which nerve?
 - recurrent laryngeal
 - trigeminal
 - CNVII
 - vagus
- The bulk of the disc is removed with what?
 - #15 blade
 - pituitary rongeurs
 - 18 gauge spinal needle
 - blunt nerve hook
- An improperly sized graft could lead to what?
 - impingement of the spinal cord
 - graft extrusion
 - graft intrusion
 - all of the above
- A long-term consideration of multi-level fusions is what?
 - premature disc degeneration
 - permanent loss of voice
 - paralysis
 - none of the above

216 JUNE 2002 CATEGORY 1

Anterior cervical fusion

<input type="checkbox"/> Certified Member	<input type="checkbox"/> Certified Nonmember		a	b	c	d		a	b	c	d
Certification No _____		1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name _____		2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Address _____		3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
City _____ State _____ ZIP _____		4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Telephone _____		5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Mark one box next to each number. Only one correct or best answer can be selected for each question.

CE Exam

CONTINUING EDUCATION EXAMINATION

Anterior cervical corpectomy, fusion and stabilization

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- At what level does the vertebral artery enter the cervical spine?
 - T-1
 - C-7
 - C-6
 - Foramen magnum
- What term is given to the condition of the atlas being fused to the occiput?
 - Sacralization
 - Occipitalization
 - Degeneration
 - Impingement
- A diameter of less than ____ at the foramen magnum often leads to neurologic deficits?
 - 19 mm
 - 26 mm
 - 40 mm
 - none of the above
- Herniated disk at the ____ level compresses the C8 nerve root.
 - C5-C6
 - C6-C7
 - T1-T2
 - C7-T1
- Which definition is mismatched?
 - spondylitis-inflammation of vertebrae
 - kyphosis-swelling of the joint
 - ankylosis-stiffening of fixation of the joint
 - stenosis-narrowing of a passage or orifice
- What is the first major structure encountered in the superficial dissection of the neck?
 - Carotid artery
 - Omohyoid muscle
 - Platysma muscle
 - Anterior longitudinal ligament
- Most cervical plates are pre-bent with an angle of cervical _____.
 - Lordosis
 - Kyphosis
 - Spondylosis
 - Ankylosis
- With which type of screws are the holes tapped after they are drilled?
 - cranial
 - caudal
 - bicortical
 - all are tapped
- If spondylosis is left untreated, what may result?
 - scoliotic deformity
 - kyphotic deformity
 - segmental instability
 - both b and c
- Which is a factor in the pathogenesis of cervical disk disease?
 - cigarette smoking
 - genetics
 - autoimmune phenomenon
 - all are factors

Anterior cervical corpectomy, fusion and stabilization

Certified Member

Certified Nonmember

Certification No _____

Name _____

Address _____

City _____ State _____ ZIP _____

Telephone _____

	a	b	c	d		a	b	c	d
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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Mark one box next to each number. Only one correct or best answer can be selected for each question.

Answers

CE CREDIT PKG 4: 10 CONTINUING EDUCATION CREDITS

Certified Member

AST Member No: _____

Name: _____ Certification No: _____

Address: _____ City: _____ State: _____ ZIP: _____

Telephone: _____ Email: _____

CE CREDIT PKG 4: 10 CONTINUING EDUCATION CREDITS

The fee is \$15. This package is only available to AST members.

Check Enclosed

Yes, I want to pay by credit card: Visa MasterCard AmEx

Card # _____ Expiration Date _____ Signature _____

From bonesetter to orthopaedic surgeon: A history of the specialty of orthopaedics

<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>				
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Osteoporosis unveiled: Answers to your questions

<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>				
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IntraDiscal electrothermal therapy: A novel approach to lumbar disc degeneration and herniation

<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>				
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Posterior spinal surgery

<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>				
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The Ilizarov technique

<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>				
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Fat embolism: A complication of long bone fracture

<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>				
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Posterior spinal surgery: 20th century advances

<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>				
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Bone healing

<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>				
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Anterior cervical fusion

<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>				
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Anterior cervical corpectomy: Fusion and stabilization

<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d</i>				
1.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	4.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	5.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Mark one box next to each number. Only one correct or best answer can be selected for each question.</i>				
3.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

Directions: Complete all 10 answer keys for the exams. Include your check or money order made payable to AST or complete credit card information with the appropriate amount and mail to AST, Attn: CE credits, 6 West Dry Creek Circle, Suite 200, Littleton, CO 80120-8031. If paying by credit card, you can fax in the answer keys and credit card payment to AST at 303-694-9169.