

The Royal College of Veterinary Surgeons

**DIPLOMA IN EQUINE ORTHOPAEDICS EXAMINATION**  
**PAPER I**  
**(Basic Sciences)**

**Monday 2 March 1992**  
**10.00 a.m. to 1.00 p.m. (3 hours)**

**SECTION A**

Two long-answer questions of which  
a candidate must choose one question  
to answer in approximately 1½ hours

*Candidates are warned that illegible handwriting may result  
in examiners being unable to award marks for information  
which candidates intended to convey*

1. Describe in detail the relationship of structure to function in a normal synovial joint.
2. Discuss the advantages and disadvantages of the arrangement of musculo-skeletal tissues in the forelimb of the horse in relation to locomotor efficiency.

P.T.O. for Section B

**The Royal College of Veterinary Surgeons  
DIPLOMA IN EQUINE ORTHOPAEDICS EXAMINATION**

**PAPER I  
(Basic Sciences)**

**Monday 2 March 1992  
10.00 p.m. to 1.00 p.m. (3 hours)**

**SECTION B**

Ten compulsory short-answer questions to  
be answered in approximately 1½ hours  
(allowing some 9 minutes for each question)

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3. What is meant by fibre type in skeletal muscle?
4. Describe the histological structure of bone in the mid-shaft of the third metacarpal bone in the horse.
5. List the characteristics and roles of the osteoblast.
6. Describe the healing process following tendon strain.
7. Describe the normal process of horn growth in the hoof wall.
8. What is meant by the term 'indirect fracture repair'?
9. Describe the types of peripheral nerve injury which may be sustained and their effect on voluntary muscle function.

P.T.O. for questions 10, 11 and 12

10. Give an account of the principles of scintigraphy.
11. Briefly describe the changes which may follow periosteal insult.
12. What is a growth factor? Give an example and describe its role.

The Royal College of Veterinary Surgeons

**DIPLOMA IN EQUINE ORTHOPAEDICS EXAMINATION**

**PAPER II  
(Clinical Aspects)**

**Monday 2 March 1992  
2.00 p.m. to 5.00 p.m. (3 hours)**

This papers consists of six questions  
of which a candidate must choose five to answer  
(which allows some 35 minutes for each question)

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1. Discuss the condition of 'sore shins'. With reference to current knowledge of the pathophysiology of this condition, what advice would you give with respect to treatment and prevention?
2. Post-anaesthetic complications can compromise the success of equine orthopaedic surgery. Outline those which occur, and the measures you would take to prevent, and if necessary, treat such complications.
3. Give a short account of the techniques and the role of gait analysis in the investigation of equine locomotor disorders.
4. Discuss the pathogenesis and management of subchondral bone cysts in the young horse.
5. Explain the rationale for the use of the various intraarticular medications currently available for the treatment of non-infectious joint disease.
6. Briefly review present knowledge on the aetiology of developmental orthopaedic disease.

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**PAPER I**

**(Basic Sciences)**

**Tuesday 2 March 1993**

**10.00 a.m. to 1.00 p.m. (3 hours)**

**SECTION A**

Two long-answer questions of which  
a candidate must choose one question  
to answer in approximately 1½ hours

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1. Discuss the processes of modelling and remodelling that occur in long bones.
2. Discuss the structure/function relationships of articular cartilage and describe the mechanisms by which joint surface congruity is optimised under load.

P.T.O. for Section B

**The Royal College of Veterinary Surgeons  
DIPLOMA IN EQUINE ORTHOPAEDICS EXAMINATION**

**PAPER I  
(Basic Sciences)**

**Tuesday 2 March 1993  
10.00 p.m. to 1.00 p.m. (3 hours)**

**SECTION B**

Ten compulsory short-answer questions to  
be answered in approximately 1½ hours  
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3. To what extent and how can farriery influence the arc of flight in front feet?
4. Outline the different types of lever systems found in the hind limb of the horse.
5. Describe the structure and function of synovial membrane.
6. What is a sarcomere?
7. Outline the structure, distribution and role of trabecular bone.
8. What do you understand by the term 'muscle fibre type'?
9. Outline the role of inflammation in degenerative joint disease.

P.T.O. for questions 10, 11 and 12

10. What are the important factors which influence healing of a traumatically severed tendon?
11. Outline the circulatory events which occur in acute laminitis.
12. Outline the factors which may influence neuroma formation following palmar digital neurectomy.

**The Royal College of Veterinary Surgeons  
DIPLOMA IN EQUINE ORTHOPAEDICS EXAMINATION**

**PAPER II  
(Clinical Aspects)**

**Tuesday 2 March 1993  
2.00 p.m. to 5.00 p.m. (3 hours)**

This paper consists of six questions  
of which a candidate must choose five to answer  
(which allows some 35 minutes for each question)

*Candidates are warned that illegible handwriting may result  
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1. Write an essay on antibiotic resistance with special reference to infections involving bone and joints.
2. Write an essay on fractures of the pelvis with particular reference to diagnosis and sequelae.
3. Outline the current treatment regimes for acute and chronic tendon injury; for each, discuss its efficacy in relation to your knowledge of the basic science of tendon healing.
4. Discuss the role of nutrition in the development of osteochondritis.
5. Discuss the pathogenesis and management of chip fractures of the carpus.
6. Discuss management of post-operative pain (after orthopaedic surgery)

The Royal College of Veterinary Surgeons

**DIPLOMA IN EQUINE ORTHOPAEDICS EXAMINATION**

**PAPER I**

**(Basic Sciences)**

**Tuesday 2 May 1995**

**10.00 a.m. to 1.00 p.m. (3 hours)**

**SECTION A**

Two long-answer questions of which  
a candidate must choose *ONE* question  
to answer in approximately 1 1/2 hours

*Candidates are warned that illegible handwriting may result  
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which candidates intended to convey*

1. Discuss the skeletal adaptations to high speed locomotion in the horse.
2. Discuss the functional morphology of muscle in the locomotor system of the horse, with particular reference to its suitability for energetically efficient high speed locomotion.

P.T.O. for **Section B**

The Royal College of Veterinary Surgeons

**DIPLOMA IN EQUINE ORTHOPAEDICS EXAMINATION**

**PAPER I  
(Basic Sciences)**

**Tuesday 2 May 1995**

**10.00 p.m. to 1.00 p.m. (3 hours)**

**SECTION B**

**TEN compulsory short-answer questions to  
be answered in approximately 1½ hours  
(allowing some 9 minutes for each question)**

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3. What is an osteoclast? Describe the factors that control its activity.
4. Describe the functional morphology of the periosteum.
5. Describe the structure, distribution and role of articular cartilage.
6. What is a 'growth factor'? Give an example relevant to bone modelling.
7. Describe indirect fracture repair.
8. What is the evidence to support the concept of shock absorption in the foot of the horse?
9. Outline the skeletal malformations encountered in newborn foals and indicate those which you think can and should be treated.

P.T.O. for questions 10, 11 and 12

10. Outline the circumstances and times when AO implants should be removed from equine bones.
  
11. Outline the diagnostic methods which may be employed in the diagnosis of pelvic fractures in the horse.
  
12. Describe the structure and function of menisci.

The Royal College of Veterinary Surgeons

**DIPLOMA IN EQUINE ORTHOPAEDICS EXAMINATION**

**PAPER II**

**(Clinical Aspects)**

**Tuesday 2 May 1995**

**2.00 p.m. to 5.00 p.m. (3 hours)**

**This papers consists of Six questions  
of which a candidate must choose *FIVE* to answer  
(which allows some 35 minutes for each question)**

***Candidates are warned that illegible handwriting may result in examiners being unable to award marks for information which candidates intended to convey***

1. Discuss the aetiology, pathogenesis, clinical presentation and management of the 'tying-up' syndrome.
2. Discuss the diagnosis, management and prognosis of ligamentous injuries of the stifle.
3. Discuss the value of nuclear scintigraphy in equine orthopaedics.
4. Discuss the diagnostic and therapeutic approach to a horse with an acute onset of 'head tilt'. What factors influence the prognosis?
5. Discuss heritability and equine lameness.
6. Using specific examples, discuss the relevance of biomechanics in planning the management of fractures.

The Royal College of Veterinary Surgeons

**DIPLOMA IN EQUINE ORTHOPAEDICS EXAMINATION**

**PAPER I**

**(Basic Sciences)**

**Monday 28 April 1997**

**(3 hours)**

**SECTION A**

***Two long—answer questions of which  
a candidate must choose ONE question  
to answer in approximately 11/2 hours***

*Candidates are warned that illegible handwriting may result  
in examiners being unable to award marks for information  
which candidates intended to convey*

1. Discuss the phenomenon of functional adaptation in bone with reference to the condition of “sore shins” in the young Thoroughbred racehorse.
2. Discuss the term “structural hierarchy” in relation to tendons and ligaments and its relevance in understanding the biology of tendon injury.

P.T.O. for Section B

The Royal College of Veterinary Surgeons

**DIPLOMA IN EQUINE ORTHOPAEDICS EXAMINATION**

**PAPER I**

**(Basic Sciences)**

**Monday 28 April 1997**

**(3 hours)**

**SECTION B**

*TEN* compulsory short—answer questions to  
be answered in approximately 1½ hours  
(allowing some 9 minutes for each question)

*Candidates are warned that illegible handwriting may result  
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which candidates intended to convey*

3. Discuss briefly the relationship between the microstructure of equine bone and its mechanical properties.
4. Describe the structure and function of the proteoglycan component of equine articular cartilage.
5. Discuss the changes in synovial fluid which occur in association with osteoarthritis.
6. Discuss briefly the terms “modelling” and “remodelling” as applied to bone.
7. Describe the processes of lower motor neurone injury and regeneration.
8. To what extent has gait analysis technology helped lame horses?
9. Discuss briefly the term ossification centre in terms of its biological and functional roles.

P.T.O. for questions 10,11 and 12

10. Discuss factors which influence blood flow within the hoof capsule of the equine digit.
11. Discuss briefly the use of corticosteroids in the management of equine joint disease.
12. Discuss briefly the term "muscle fitness".

The Royal College of Veterinary Surgeons

**DIPLOMA IN EQUINE ORTHOPAEDICS EXAMINATION**

**PAPER II**

**(Clinical Aspects)**

**Monday 28 April 1997**

**(3 hours)**

This papers consists of *Six* questions  
of which a candidate must choose *FIVE* to answer  
(which allows some 35 minutes for each question)

*Candidates are warned that illegible handwriting may result  
in examiners being unable to award marks for information  
which candidates intended to convey*

1. Discuss the aetiology and pathogenesis of acquired flexural deformities in the horse.
2. Discuss the medical management of osteoarthritis in the horse.
3. Discuss the rational use of prophylactic antibiotics and analgesics in equine orthopaedic surgery.
4. What are the principles of ASIF fracture fixation? What are the advantages and limitations of this system for equine fracture management?
5. Discuss the surgical management of tendon injuries in the horse.
6. Discuss heritability and equine lameness.

THE ROYAL COLLEGE OF VETERINARY SURGEONS

**DIPLOMA IN EQUINE ORTHOPAEDICS**

**TUESDAY 30 JULY 2002**

**PAPER I  
BASIC SCIENCES  
(3 hours)**

**SECTION A  
[1 ½ hours]**

Candidates are required to answer **ONE** of the following **two** questions

Allow 1½ hours.

*Illegible handwriting or failure to answer the question in the form requested may result in examiners being unable to award marks for information which candidates intended to convey*

*If insufficient time is available to answer a question fully, it will be acceptable to complete in note form.*

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1. Discuss the phenomenon of functional adaptation in bone with reference to the condition of 'sore shins' in the young Thoroughbred racehorse.
2. Discuss the term 'structural hierarchy' in relation to tendons and ligaments and its relevance in understanding the biology of tendon injury.

P.T.O. for **Section B**

THE ROYAL COLLEGE OF VETERINARY SURGEONS

**DIPLOMA IN EQUINE ORTHOPAEDICS**

**TUESDAY 30 JULY 2002**

**PAPER I  
BASIC SCIENCES**

**SECTION B**  
[1 ½ hours]

Candidates are required to answer **all TEN** of the following questions.

Allow 9 minutes per question.

*Illegible handwriting or failure to answer the question in the form requested may result in examiners being unable to award marks for information which candidates intended to convey. Use diagrams where necessary*

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3. **Briefly** describe the relationship between the microstructure of equine bone and its mechanical properties.
4. Describe the structure and function of the proteoglycan component of equine articular cartilage. Use diagrams as appropriate.
5. Describe the changes in synovial fluid which occur in association with osteoarthritis.
6. Discuss **briefly** the terms 'modelling' and 're-modelling' as applied to bone.
7. Describe the fundamental processes of nerve fibre injury and regeneration [wallerian degeneration and regeneration] in peripheral nerves.
8. To what extent has gait analysis technology helped lame horses?
9. Relate the term ossification centre to its biological and functional roles.
10. What are the factors which influence blood flow within the hoof capsule of the equine digit?
11. **Briefly** describe the use of corticosteroids in the management of equine joint disease.
12. What is meant by the term 'muscle fitness'?

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THE ROYAL COLLEGE OF VETERINARY SURGEONS

**DIPLOMA IN EQUINE ORTHOPAEDICS**

**TUESDAY 30 JULY 2002**

**PAPER II  
CLINICAL ASPECTS  
(3 hours)**

Candidates are required to answer **FIVE** of the following **six** questions.

Allow 35 minutes per question.

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*If insufficient time is available to answer a question fully, it will be acceptable to complete in note form.*

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1. Discuss the aetiology and pathogenesis of acquired flexural deformities in the horse.
2. Discuss the medical management of osteoarthritis in the horse.
3. Discuss the rational use of prophylactic antibiotics in equine orthopaedic surgery.
4. What are the principles of ASIF fracture fixation? What are the advantages and limitations of this system for equine fracture management?
5. Discuss the surgical management of tendon injuries in the horse.
6. Discuss the heritability of equine lameness.

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