

RVC

Royal Veterinary College
University of London

Bachelor of Veterinary Medicine Day One Skills



BVetMed Day One Skills Handbook

Introduction

Welcome to the BVetMed Day One Skills Handbook.

What are Day One Skills?

As you may know, the Royal College of Veterinary Surgeons (RCVS) and Quality Assurance Agency (QAA) are responsible for defining the basic competencies required of a new veterinary graduate: the Day One Skills.

Over the past few years, we have realised that many students are unclear about the range and level of competency required of a new veterinary practitioner. Students seem to have had difficulties interpreting the Day One Skills and up until now, there were no clear competency objectives for the clinical years of the BVetMed programme.

The BVetMed Day One Skills Handbook has been produced to:

- provide a clear breakdown of the competencies into their associated skill elements
- identify the knowledge, behaviour, attitudes and skills that are expected of every RVC veterinary student by the time of graduation

We have produced an outline of the BVetMed curriculum in five broad sections (as identified by the graphical overview on the following pages):

1. Underlying Principles (this section relates to theory within the overall BVetMed curriculum. Detail is not included in this handbook since it focuses only on the Day One Clinical Skills).
2. Professional Practice
3. Evaluation of Animals and their Care
4. Clinical Decision Making
5. Care and Treatment of Animals

Each section relating to clinical competencies is divided into three levels:

- Area of Practice
- Specific Requirements
- Range

The Day One Skills listed in this handbook are the skills that you will be expected to perform when you have completed your studies without any supervision from a qualified vet or veterinary nurse. There are many other skills required of a veterinary practitioner; these may be skills of which you have knowledge, but which you will not be expected to perform without supervision as a newly qualified vet.

How can I use this skills handbook?

This handbook is designed to help you during the clinical years of your BVetMed programme. We encourage you to use this as a way of taking an active approach to your learning and to help you plan your progression to becoming a competent and proficient veterinary practitioner. Whilst this handbook identifies the skill outcomes ultimately required of a new veterinary graduate, it does not dictate how you should go about achieving these outcomes, nor the stage of your course by which they should have been achieved. You need to identify for yourself how and when to master the Day One Skills.

You may find that some of the skills presented do not at first glance appear to be practical skills, but relate more to an attitude or behaviour. For example,

‘Identify gaps in competence and take appropriate action, maintain and update knowledge and skills’.

These are still however essential Day One Skills which will assist you in directing your learning and help you to organise and structure your practice of Day One Skills in the most appropriate environment. This may be during your intramural rotations (IMR), extramural studies (EMS) or in the Clinical Skills Centre (CSC).

What if I have any questions?

The information in this handbook is also available in the Blackboard Virtual Learning Environment under BVetMed Clinical Course Information, BVetMed Day One Skills.

If you have any specific questions or comments, please use the discussion board on Blackboard or contact Perdi Welsh, researcher and producer of this handbook, by email on pwelsh@rvc.ac.uk. Any feedback and/or constructive criticism is also highly appreciated.

The items in this handbook are subject to regular review to ensure that they continue to be relevant and up-to-date. The information in this version was reviewed and published in June 2007.

Key

Key purpose



Area of practice



Specific requirements



Range of specific requirements



BVetMed Day One Skills

1 Underlying Principles

A
Basic Science

B
Clinical Science

C
Social and Economic
Aspects of the Animal
Industries

D
Research Philosophy
and Methods

E
Evidence-Based
Problem Solving and
Reasoning

This section is
currently under review

2 Professional Practice

A
Communication

B
Legal/Professional/
Ethical Practice

C
Reflective Practice and
Lifelong Independent
Learning

D
Management of the
Veterinary Environment

3 Evaluation of Animals and their Care

A
Handling and Restraint

B
Gathering Information

C
General Examination /
Evaluating Care of
Animals

D
System Specific
Examination

4 Clinical Decision Making

A
Obtaining and Handling
Samples for Diagnosis

B
Using Laboratory
Equipment and Performing
Standard Tests

C
Using Diagnostic Imaging
Equipment and
Ancillary Diagnostic Tools

D
Evaluating Findings
from Diagnostic tools

E
Reaching Diagnosis and
Formulating Treatment Plan

F
Conducting Post Mortem
Examination

5 Care and Treatment

A
Emergency Care and
Treatment

B
Drug and Fluid
Administration

C
Anaesthesia

D
Surgery

E
Euthanasia

F
Husbandry and Welfare

G
Nursing

2. Professional Practice

A Communication

Communicate effectively with people

- Owners
- Veterinary colleagues
- Interprofessional colleagues
- The general public

Communicate in writing for different audiences

- Owners
- Veterinary colleagues
- Interprofessional colleagues
- The general public

Prepare and maintain clear and accurate accounts for different purposes

- Patient records and reports
- Referral letters
- Insurance reports
- Legal submissions
- Academic or scientific articles

Adapt language forms and styles to the audience and the context

Actively listen to people, taking account of non-verbal cues

Take account of any communication differences that people might have

- Disabilities
- Sensory impairment
- English as a second language
- Interprofessional cultures

Convey appropriate sympathy and empathy in verbal and non-verbal communications with people

Contribute to the facilitation of clearer communication between people

Manage conflictual situations through negotiation

Communicate Health and Safety risks to people, verbally and by displaying notices

Record, store and retrieve information using appropriate information technology systems

Provide information in a manner and at a pace that enables clients to make informed decisions

Obtain written and verbal informed consent

B Legal/Professional/Ethical Practice

Ensure that personal attitudes and behaviours are aligned with professional, moral and ethical guidance

Recognise and take account of potential consequences of your actions

- Legal
- Ethical
- Professional

Comply with the RCVS guidance on professional conduct and principles of good practice

Comply with legislative requirements

- Welfare and transportation of animals
- Notifiable, reportable and zoonotic diseases
- Prescribing and dispensing medicines
- Health and safety
- Employment and diversity

Adapt and respond to local protocols of working and Standard Operating Procedures (SOPs)

Comply with local protocols and professional procedures in the event of a formal complaint by owner

Inform people where necessary, that action is outside your legitimate competence boundaries

Comply with RCVS Principles of Certification including any relevant European legislation or regulation

C Reflective Practice and Lifelong Independent Learning

Understand and utilise basic themes of teaching and learning in own learning, and facilitate learning of others

Demonstrate a commitment to maintaining your professional competence in response to the developing scientific field and professional demands

Undertake self-audit activities using peers and other people

Identify gaps in competence and take appropriate action, maintain and update knowledge and skills

Gather and maintain evidence of professional development as part of lifelong independent learning

Present evidence of professional competence for interview or appraisal purposes

Recognise and work within personal limitations

Seek advice, assistance and support when required

Develop strategies for balancing personal and professional life

Manage time effectively

Take account of personal and emotional factors on your professional practice

Recognise and work within economic limitations

Contribute towards the advancement of veterinary knowledge, practice and improvements in animal care and public health

Collaborate with inter-professional colleagues to improve professional practice and relationships

D Management of Veterinary Environment

Familiarise self with and work within Health and Safety requirements and local risk factors

Contribute to maintenance of workplace hygiene following established procedures

Work collaboratively with others to promote a problem-solving approach to issues within the veterinary environment

Undertake appropriate infection-control procedures

Prepare, clean and maintain housing and kennelling that maximises the welfare of hospitalised animals

Calculate and make up effective and appropriate dilutions of disinfectant solutions

Use equipment and materials in accordance with Standard Operating Procedures (SOPs) and manufacturers instructions

Dispose of hazardous and non-hazardous waste safely and correctly

Take appropriate action and report injury to self or others, including near miss situations

Contribute towards the provision of services that take account of people's disabilities and special requirements

Advise and enable other staff to manage an effective veterinary environment

Move and lift equipment using approved manual handling and lifting techniques

Use and maintain protective clothing and equipment

Establish safe, temporary working environment in field situations

- X-rays
- Surgery
- Hospitalisation
- Euthanasia

3. Evaluation of Animals and their Care

A Handling and Restraint

Assess animal behaviour and environmental factors when approaching and handling animals

Ensure appropriate hygiene procedures are followed before and after handling animal(s)

Follow appropriate hand washing protocol

Shower in and shower out appropriate to situation

Use and dispose of protective clothing

Move and lift animal(s) using approved manual handling and lifting techniques

Select and wear protective clothing to defend oneself and others from injury

Restrain animals for a range of situations balancing safety of self and others with welfare of animal(s)

Restrain for clinical examination

Restrain for blood sample collection: jugular, cephalic, tail vein (cows), ear vein (pigs)

Restrain for urinary catheterisation

Restrain for administration of medication (oral, topical, parenteral, ophthalmic, aural)

Restrain to carry out procedures/treat

Restrain to apply dressings & bandages

Instruct others in the techniques for safe handling and restraint of animals

Lead and move animals - using a range of aids

Leads, head collar, halter, chifney bit

Safely use a range of restraining devices

Muzzles, catchers, crush cages, cast cow, halter, tail, nose, udder cinch, kick bar, gloves, twitch

Take account of species and environmental factors when handling neonates

B Gathering Information

Identify reason/s for the consultation

Establish rapport with client and animal taking account of particular communication needs

Structure the consultation into a logical sequence within time constraints

Gather relevant information on animals

Gather relevant information on husbandry practices

Use appropriate questions to focus history-taking and obtain full and accurate information

Use a range of sources of information to obtain a full and accurate case history

Records, colleagues, third parties, client advocates

Summarise the consultation ensuring that the client understands the conclusions you have reached and the next action to be taken

Summarise and record relevant case details and history for storage and retrieval by others

Individual animals

Groups of animals

Use a range of sources of information to obtain a full and accurate case history

C General Examination / Evaluating Care of Animals

Evaluate the emergency patient - triage and re-assess other current priorities accordingly

Recognise common breeds of animals

Determine sex of animal(s)

Assess approximate age by teeth in farm animals and horse

Examine and evaluate general behaviour

Use knowledge of normal and abnormal presentations to determine animal(s) health and development

Condition of animal(s)

Nature of presenting problem

Selection of further system specific examinations

Quality and appropriateness of husbandry practices

Recognise clinical signs associated with a range of conditions and take action if animal(s) appears to be at ongoing risk due to neglect

Dehydration

Poor nutrition

Welfare problems

Obtain and evaluate vital measurements: temperature, pulse and respiratory rate

Accurately score body condition using appropriate systems

Recognise clinical signs associated with key notifiable diseases and take appropriate action

D System Specific Examination

Perform an examination of the lymphatic system

Palpate peripheral lymph nodes

Evaluate peripheral lymph nodes

Perform ophthalmic examination

Perform general ophthalmic examination

Perform indirect and direct ophthalmoscopy

Perform Schirmer tear test when indicated

Measure intraocular pressure using tonometer

Perform fluorescein staining when indicated

Evaluate findings of ophthalmic examinations

Perform an aural examination

Perform a general aural examination

Use auroscope

Evaluate findings of aural examinations

Perform examination of cardiovascular system

Auscultate heart

Palpate and percuss thoracic wall

Palpate arterial pulse

Assess colour of mucous membranes and capillary refill time (CRT)

Evaluate findings of cardiovascular examinations

Perform examination of the musculoskeletal system

Analyse gait

Palpate bones muscles and tendons

Perform examination of joints

Evaluate findings of musculoskeletal system examinations

Perform examination of the nervous system

Perform general examination of the nervous system

Perform cranial nerve examination

Perform spinal reflex examination

Evaluate findings of nervous system examinations

Perform examination of respiratory system

Observe respiratory pattern

Palpate and percuss thoracic wall

Auscultate thoracic cavity and tract

Evaluate findings of respiratory examinations

Perform examination of alimentary system

Perform examination of oral cavity and teeth

Palpate abdomen

Perform rectal examination to assess alimentary system

Auscultate gastro-intestinal system

Pass nasogastric tube in horse

Evaluate findings of alimentary system examinations

Perform examination of urogenital system

Perform rectal examination to assess urinary system

Perform rectal examination to assess reproductive tract

Palpate and assess mammary glands/udder

Palpate and assess testicles and penis

Palpate and assess vagina and cervix

Assess parturition process

Evaluate findings of urogenital system examinations

Perform examination of the equine foot

Remove a shoe

Pare sole and trim a hoof

Administer palmar digital and abaxial sesamoid nerve blocks

Apply hoof testers

Evaluate findings of foot examination

Perform dermatological examination

Perform general examination of skin

Perform a Wood's lamp examination

Evaluate findings of examination of skin

4. Clinical Decision Making

A Obtaining and Handling Samples for Diagnosis

Design and implement an appropriate sampling strategy

- Individual animals
- Groups of animals

Obtain venous blood sample from appropriate site

- Jugular vein
- Cephalic vein
- Saphenous vein
- Marginal ear vein

Obtain urine sample using appropriate technique

- Cystocentesis
- Urinary catheter
- Free-catch
- Manual bladder expression

Obtain skin samples using appropriate technique

- Skin scrape
- Wet paper test for flea droppings
- Tape strips
- Coat brushings
- Impression smears
- Ear swabs
- Hair plucks
- Mackenzie brush technique
- Excision and punch biopsies

Obtain tissue and fluid samples for diagnostic purposes using appropriate technique

- Fine Needle Aspirate Biopsy (FNAB) from small peripheral mass
- Vaginal swab
- Swabs for microbiological analysis
- Abdominocentesis
- Collect faecal sample
- Collect milk sample (plain & sterile)
- Carcass sample(s) from groups of animals

Handle and label collected samples safely and correctly

Select sample tubes and transport methods appropriate for purpose

- Fluid & blood: EDTA, Heparin, Fl. Oxalate, Sodium citrate, plain tubes, blood culture bottles
- Urine: plain, boric acid
- Skin: liquid paraffin, potassium hydroxide, Mackenzie brush, ear swabs, hair plucks, microscope slides
- Microbiology - plain, culture swabs
- Tissue: formal saline

B Using Laboratory Equipment and Performing Standard Tests

Pack and send samples securely

Set up and use a microscope correctly

Set up and use other laboratory equipment as required

Perform standard tests on blood

- Prepare a blood smear
- Read a PCV
- Stain for differential white cell count
- Perform manual differential white cell count
- Perform biochemistry tests

Perform standard tests on urine

- Urine specific gravity
- Reagent strips
- Sediment examination

Perform microscopic examination on skin samples to identify range of pathogens

- Ectoparasites
- Dermatophytes
- Bacteria

Prepare and stain bacterial smears for microscopic examination

Perform and interpret results from Enzyme - Linked Immunoabsorbent Assay (ELISA) tests

Perform California Mastitis Test (CMT) on milk sample

C Using Diagnostic Imaging Equipment and Ancillary Diagnostic Tools

Position animal and area of interest to obtain diagnostic radiograph

- Appendicular skeleton
- Axial skeleton
- Thorax
- Abdomen

Prepare and use radiography imaging equipment

Observe safe practice of self and others during radiographic procedures, in particular high-risk groups

Administer and use appropriate contrast media and techniques

- Barium studies
- Intravenous Urography
- Cystography

Identify film faults and take appropriate action to correct

Process radiographic films

Set up ultrasound equipment

Prepare patient for ultrasound examination

Set up ECG machine and obtain reading

Set up equipment and obtain results for indirect blood pressure

D Evaluating Findings from Diagnostic Tools

Evaluate findings from in-house laboratory tests

- Haematology
- Biochemistry
- Urinalysis
- Skin
- Microbiology
- Faeces
- Virology
- Miscellaneous body fluids

Evaluate radiographs and interpret common disease processes

Evaluate ECG trace

Evaluate results from indirect blood pressure readings

E Reaching Diagnosis and Formulating Treatment Plan

Have a clear, logical and appropriate diagnostic and therapeutic approach to the common clinical signs that occur in practice

Formulate a rational approach to further investigation taking into account owner preferences and any financial constraints

Formulate a treatment plan that takes account of the inter-relationship of animal specific, financial and any other significant factors

Make appropriate referrals supported by evidence

F Conducting Post Mortem Examination

Perform a necropsy examination

Recognise normal and common abnormal changes in tissues & organs

Collect samples and make arrangements for subsequent analysis

Prepare a report of the gross findings

5. Care and Treatment

A Emergency Care and Treatment

Provide first aid treatment

- For animals in emergency situations
- For human beings in emergency situations

Recognise common life-threatening and serious conditions and initiate appropriate treatment

- Unconsciousness
- Shock
- Wounds
- Haemorrhage
- Ophthalmic emergencies
- Obstetrical emergencies
- Vaginal/uterine prolapse
- Acute toxic mastitis
- Colic in the horse
- Bloat in cattle and sheep
- Gastric dilatation in the dog

Undertake emergency procedures

- Perform basic cardiopulmonary resuscitation
- Administer oxygen therapy
- Perform thoracocentesis in cats and dogs
- Administer fluid therapy - Parenteral routes
- Pass orogastric tube in dog
- Perform trocharization
- Pass nasogastric tube in horse
- Resuscitate neonate (following natural and caesarean birth)

B Drug and Fluid Administration

Administer medication by appropriate route

- Oral
- Topical
- Subcutaneous
- Intramuscular
- Intravenous
- Intraperitoneal
- Intra-vaginal

Select and prescribe drugs according to need of individual case (using data sources if necessary)

- Select appropriate dosage, timing, frequency and route
- Prescribe drugs in compliance with legislative requirements
- Write prescription in compliance with current legislative requirements
- Obtain informed consent when prescribing off-label drugs
- Make up and draw up drug solutions and instruct others in these procedures

Ensure safe and legal handling and management of drugs

- Manage risk to self or others associated with particular substances
- Store drugs in accordance with special requirements
- Calculate drug dosages - using technology as necessary
- Dispense medications in accordance with legal requirements and cascade
- Dispose of drugs in line with legislative guidelines

Administer fluid therapy

- Select most appropriate route
- Select appropriate fluids
- Calculate amount and rate of fluid to administer
- Place catheters into appropriate veins according to species
- Prepare and set up administration equipment
- Observe and monitor patient receiving fluids

C Anaesthesia

Prepare for anaesthesia

- Perform a pre-anaesthetic evaluation
- Prepare patient
- Select and prepare drugs
- Check and prepare anaesthetic machine
- Select and prepare breathing system / circuit / pollution control
- Select and prepare monitoring equipment

Perform anaesthesia

- Administer premedication
- Administer induction agent
- Perform endotracheal intubation
- Administer inhalation agents
- Calculate and administer fresh gas flow rates
- Perform manual intermittent positive pressure ventilation (IPPV)

Maintain and monitor the patient during anaesthetic process

- Measure temperature, check heart rate, central and peripheral pulse, respiratory rate and depth (including oesophageal stethoscope)
- Evaluate findings from pulse oximetry, ECG, respiratory monitors
- Assess depth of anaesthesia
- Complete anaesthetic monitoring records
- Ensure general health and well-being of the anaesthetised and recovering patient

Perform local anaesthesia

- Local infiltration
- Topical application
- Nerve blocks for dehorning and castration in farm animals
- Nerve blocks for local surgery in horses

Recognise and manage pain during the anaesthetic process

Respond to complications and emergencies during the anaesthetic process

D Surgery

Prepare for aseptic surgery

- Prepare and sterilise surgical instruments and equipment
- Scrub hands/arms
- Gown and glove using open and closed methods
- Prepare surgical site
- Position and drape the patient
- Open surgical packs and layout surgical kits

Undertake surgical techniques

- Ensure principles of handling surgical instruments are applied
- Debride a wound
- Drain an abscess
- Make a skin incision
- Place a surgical drain
- Remove a simple skin mass
- Carry out haemostasis in the event of superficial haemorrhage

Suture and ligate tissues

- Select and use suture materials appropriately
- Perform simple interrupted skin sutures
- Perform simple continuous sutures
- Perform horizontal and vertical mattress sutures
- Perform intestinal suturing (Cushing and Lembert)
- Perform instrument and hand knot-tying

Undertake surgical procedures

- Obtain incisional / excisional biopsy from superficial tissues (not involving internal organs)
- Perform ovariohysterectomy in cat
- Perform castration in horse, farm animal, dog, cat, rabbit
- Apply external splints and casts in appropriate situations
- Assist with orthopaedic procedures
- Perform disbudding
- Perform laparotomy in dog and cat
- Treat vaginal prolapse in farm animals
- Repair umbilical hernia in dog, cat, farm animal
- Retrieve aural foreign body

Undertake dental care and treatment

- Prepare and operate dental machinery
- Prepare and set up patient for dental treatment
- Scale and polish teeth
- Rasp equine teeth

Advise clients with regard to surgical after-care

- Healing processes
- Feeding and nutrition
- Exercise and rehabilitation
- Physical and environmental conditions

E Euthanasia

Assess clinical factors to determine appropriateness of euthanasia

Ensure ethical and welfare factors are taken into account

Convey appropriate sympathy and empathy in verbal and non-verbal communications

Maintain and adapt professional approach to the circumstances

Handle animals and equipment safely for euthanasia

Administer intravenous euthanasia drugs

Dispose of cadavers appropriately

F Husbandry and Welfare

Develop collaborative relationships with clients to encourage good husbandry practice

Collaborate with client to identify and resolve husbandry issues

Ensure clients are aware of the principles of animal welfare and good husbandry practice

- Advise on appropriate environmental and housing conditions
- Advise on behavioural needs of animals
- Advise on prevention of disease and promotion of well-being
- Advise on feeding and nutritional needs of animals
- Advise on management of common parasite infestation and control
- Advise on cost effectiveness and management of disease prevention and well-being procedures
- Advise on productivity of animals

Ensure animal(s) have freedom from distress and pain

Ensure clients are aware of relevant legislative frameworks

Examine herd-health records for evaluation of health and welfare of animals

Support good husbandry practice

Calculate energy needs and food quantities from basic principles

Advise on selection of specialist dietary requirements

- For nutritional deficiencies
- During particular life-stages
- For specific conditions

5. Care and Treatment continued

F Husbandry and Welfare continued

Provide veterinary certificates and signatures within legislative requirements

For silhouettes for horse passports

For emergency slaughter by licenced or unlicenced individuals

Comply with reporting procedures for

Notifiable diseases

Reportable diseases and injuries (RIDDOR)

Zoonotic disease

Advise clients with regard to medical after-care of animal(s)

Safe and effective administration of medications by others

Potential side effects of medications

Health and safety risks associated with medications

Withholding times for meat and milk

Safe storage and handling requirements for medications

Perform basic husbandry techniques

Put on stable rug, horse boots

Use a milking machine

Tail dock - lambs

Assemble and fit Elizabethan collar

Implant microchip and check function

G Nursing

Apply and manage bandages

Forelimb, hind limb, Robert-Jones, ear, splint, stable, exercise

Advise clients on re-application of bandages

Apply and manage dressings and drains

Select materials for post-surgical wounds

Select materials for non first-intention healing wounds

Manage a surgical drain

Undertake grooming appropriate to species

Clean ears

Clean out hooves with hoof pick or hoof knife

Trim claws and nails

Use basic grooming kit

Trim beak (budgerigars & canaries)

Remove hair mats

De-maggoting rabbits and sheep

Manage assisted feeding

Identify the need for and provide assisted feeding

Manage and maintain assisted feeding tubes in all species

Place naso-oesophageal feeding tube in dogs and cats

Place orogastric feeding tube in neonates, reptiles, chelonia

Calculate energy needs and food quantities from basic principles

Perform basic physiotherapy

Efflurage, petrissage, passive movement

The Day One Skills as listed by the Royal College of Veterinary Surgeons (RCVS) are deliberately broadly framed. This means that individual veterinary schools will vary in the details of how these objectives are achieved.

This handbook represents the consensus views of over 70 clinical and research staff of the Royal Veterinary College.

Further Information:

Royal College of Veterinary Surgeons (RCVS)

Day and Year One Competences: <http://www.rcvs.org.uk>

Quality Assurance Agency for Higher Education (QAA)

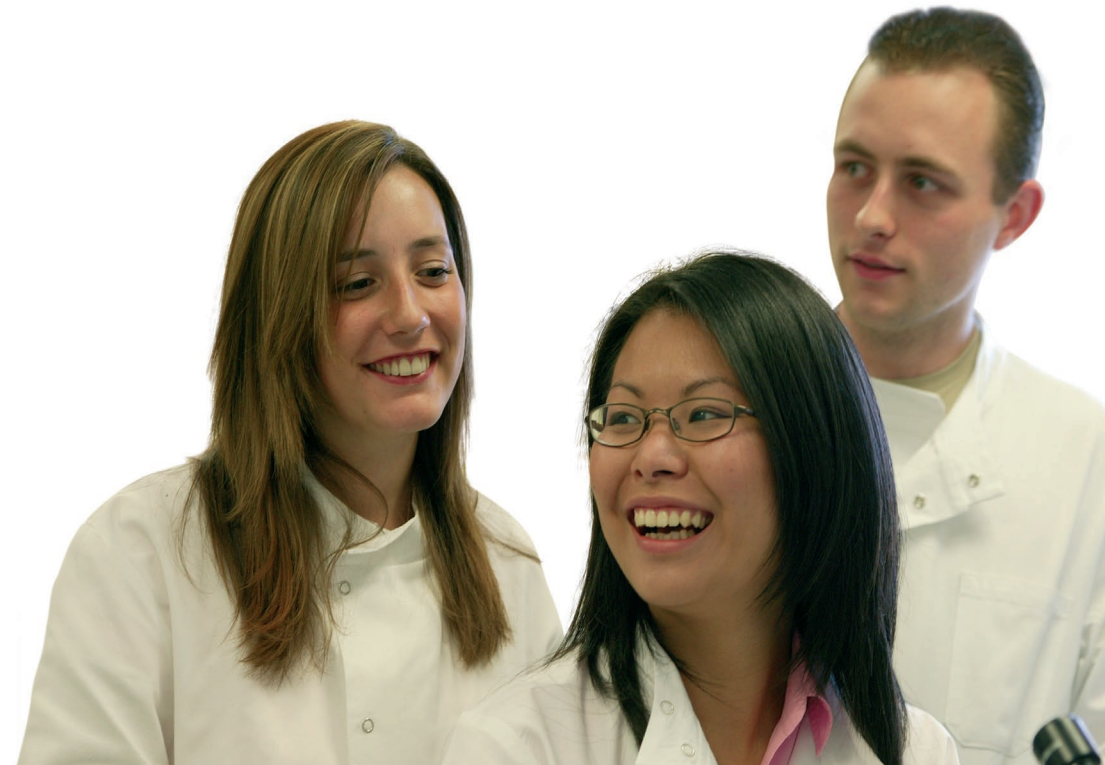
Benchmark Statements: <http://www.qaa.ac.uk>

For General Enquires regarding BVetMed Day One Skills contact:

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LIVE <http://www.live.ac.uk>

U <http://www.rvc.ac.uk>



Sharing passions, shaping futures



Established in 1791, RVC is the UK's largest and oldest veterinary college – with a proud heritage of innovation in veterinary science, clinical practice and education.