



THE ROYAL MARINES

Gymnastics







Teacher Notes





Acknowledgements

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Thanks are the support given to this project. *Editor:* **P. Edwards M.A.**

Prepared for the Royal Navy in Association with the British Gymnastics Association and produced by Education and Youth Limited, London.

If there is any support you feel the Royal Navy can give regarding this project please contact 0870 333 0423 $\,$

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Introduction to Gymnastics

Gymnastics is often considered to be a sport for the young, but people of all ages and abilities can participate. There has recently been a tremendous growth in the area of pre-school groups where to 1 to 5 year olds discover the foundations of human movement in a playful environment. The children participate with their parents under the tuition of a trained leader. Participation can be at a recreational level simply for fitness and enjoyment and classes for adult beginners and retired competitors are growing in popularity.

The competitive aspect of gymnastics makes it a very demanding and extremely technical sport which requires many hours of training and preparation. It is generally thought that to achieve national standard, it will require six years of training for females and nine years for males. The differences occur due to the normal sex-age characteristics of physical development and the late development of mature strength required in the men's sport. Preparation usually commences between the ages of 6 and 10 years, during which period the development of good flexibility and postural control are the main aspects of training. The on-going process of training will include the development of strength, co-ordination, spatial awareness and the core gymnastics movement skills which are the foundation upon which high level and good quality gymnastics are based. "Determination" and "Desire" are however the most important traits for successful participation in any sport and a number of top performers did not commence their gymnastic training until their teenage years.

The desire to participate in gymnastics may be associated with obvious gains in fitness but also in the sense of challenge and achievement which can be experienced at any level of ability. It also offers a rare opportunity for freedom of human movement and expression of aesthetic and artistic qualities.

In the UK it is possible to participate in a variety of gymnastic activities including Men's and Women's Artistic Gymnastics, Sports Acrobatics, Rhythmic Gymnastics and Recreational Gymnastics. Recreational gymnastics encompasses pre-school gymnastics, school gymnastics and gymnastics for adult or veteran gymnasts. People with disabilities may also participate in both recreational and competitive gymnastics. Each aspect has its own set of apparatus requirements and regulations:

Women's Artistic Gymnastics: Vault, Asymmetric Bars, Beam, Floor.

Men's Artistic Gymnastics: Floor, Pommels, Rings, Vault, Parallel Bars, Horizontal Bar.

Rhythmic Gymnastics: Ribbon, Ball, Hoop, Clubs, Rope.

Sports Acrobatics: Tumbling, Male and Female Pairs, Female Trios, Mixed Pairs, Men's Fours.

Due to the complex nature of each activity, these notes will be confined to the Floor work and Vaulting aspects of Men's and Women's gymnastics. The text is limited to those elements listed in the GCSE syllabus and hence it covers only a few of the core skills in the total sport of Gymnastics.

As with most sports, the level of "fitness" will determine the level of participation and degree of success within the sport. It is imperative that a thorough warm up and stretching period should precede each training session. This will raise the body temperature, improve the cardiovascular system and increase respiratory rate. The ability of the muscles and connective tissue to be stretched without risk is improved and anxiety is reduced.

The risk of injury will also be greatly reduced through the training of effective and safe landings.

Physical conditioning to produce the required level of fitness should always precede the learning of new skills. Gymnastic skills should be learnt in a safe environment and a series of progressive exercises will aid the safe learning of skills.

The suggested teaching model is:

Physical Preparation 🔸	Progressive Skills 🔸			
(flexibility strength)	(development through part skills)			

Consolidation → (consistency and accuracy) Free Expression

(discovering a variety of entry/ exit combinations)

The purpose of these notes is to present some guidelines for the safe development of the core elements in floor work and vaulting. There is usually more than one technique used in a particular skill. Those illustrated are extensively used and depict the desired concept of each skill.







Skills Development Sheet

The beginning stage of learning Gymnastics is the exploratory phase, where the gymnast is attempting to learn the correct sequence of movements of all the basic skills e.g. forward rolls, handstands. A number of errors may be made and gymnasts will need feedback to recognise and correct those errors.

At the intermediate stage the basic skills will be performed more consistently and fluently. A gymnast will now be able to link skills together and demonstrate improved strength, speed and flexibility

At the advanced stage all basic skills are automatic and the gymnast will concentrate on more advanced and detailed aspects of the skill. Competition will be a key element, whether this be competing against self or others.

Name of Module	Gymnastics			
Basic Skills: Floorwork	Forward rolls, backward rolls, cartwheels, handstands, round off and arab spring, handspring, back flip, flic flac, headspring, backward somersault, forward somersault (pages 6-17)			
Basic Skills: Vaulting	Take-off, squat or through vault, straddle vault, headspring, neck spring, bent arm overswing, handspring, cartwheel vault, yamashita vault (pages 18-26)			
Physical Conditioning Training Skills	Power, speed, strength, flexibility, mental preparation (pages 27-34)			
Rules and Regulations	Structure of events Composition of a floor routine Apparatus dimensions Vaulting Structure of artistic gymnastic events (pages 37-38) For all other rules and information contact: British Amateur Gymnastic Association B.A.G.A			







Unit 1 Safety

The following is a brief guide to the safety factors to be observed when participating in gymnastics.

- a) Ensure that a safe environment is provided at all times.
- Ensure that the equipment is correctly assembled and suitably padded with landing mats appropriate for the apparatus and type of activity.
- ii) Ensure that there is sufficient space to move between apparatus.
- iii) Adjust the height/width of the apparatus to suit the ability of the gymnast.

b) Supervision

- i) Gymnastic activities should only be performed under the supervision of a qualified person
- ii) When additional supporters assistants are used, ensure that they are physically strong enough and competent to assist

c) Personal Care

- i) Do not wear jewellery in the gymnasium
- ii) Do not wear loose baggy clothing or clothing which will restrict movement
- iii) Always warm up before performing gymnastics exercises
- iv) Do not permit the gymnast to attempt exercises or skills for which they have not been prepared
- v) Do not attempt to perform gymnastics' skills when the body is fatigued
- vi) Ensure that the gymnast has the required fitness to perform the task in hand
- vii) The ability to land or fall safely will greatly reduce the anxiety and will reduce the risk of injury

N.B. General discipline and safety

Accidents in the gymnasium may be caused through ignorance, stupidity and horseplay. It is necessary, therefore, that the discipline and order throughout a gym session should be of a high standard. Rules regarding behaviour should be established and enforced at all times.

Horseplay, practical jokes, unsupervised running around the gym should never be permitted and an orderly movement between apparatus changes should be encouraged.

A good standard of behaviour and presentation will enhance the selfcontrol and discipline traits that all gymnasts require.







Unit 2 Floorwork

Introduction

Gymnastic floor exercises comprise acrobatic skills, cartwheels, backflips and somersaults, joined together with spins, balances and jumps to form a harmonious routine.

The performance of gymnastic elements requires a degree of physical strength, kinesthetic and spatial awareness. Each family group of exercises is shown in level of difficulty and may be used as a guide to the order in which they should be taught. However, an understanding of the handstand is a prerequisite to learning any full support skills such as handstand roll, cartwheel handspring etc.

The elements shown are the basic building blocks for gymnastic performance and it is important that the budding gymnast has a sound understanding of these essential elements.





2. Roll from shoulders



3. Incline



4a. Forward roll tucked

Forward Rolls

- 1 Tucked "Rocking"
- i) Head forward
- ii) Chest moves towards thighs

2 Roll from shoulders

- i) Extend body to develop momentum
- ii) Tuck rapidly as seat touches the floor
- iii) Chest moves towards thighs

3 Incline

- i) Thrust forwards with legs from the crouch position
- ii) **Lower** the shoulders to the floor
- iii) Swing the legs through an extended position
- iv) Tuck rapidly as above

4a. Forward roll - tucked

- i) Thrust forward from the legs to give a low flighted phase
- ii) Tuck head in as the arms bend

4b. Forward roll – straddled.

Place hands between legs and hold the chest down during the "push"



4b. Forward roll - straddled







4c. Straight leg forward roll

- i) Hands move quickly forwards to side of the legs
- ii) Chest should remain down on the thighs until the "push" is complete

4d. Handstand forward roll

- i) Show handstand straight body
- ii) Tilt body off balance
- iii) Lower to shoulders as body moves forward
- iv) Tuck head in

4e. Dive forward roll

i) Hold body tension and lean forward on take off

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4c. Straight leg forward roll



4d. Handstand forward roll



4e. Dive forward roll









2a.

Backward Rolls

1. Backward Roll

Incline

- **2a.** i) Use incline for momentum and familiarisation.
 - ii) Hands shoulder width apart.
 - iii) Push and lift hips
 - iv) Backward roll with assistance from the incline

Backward roll – tucked

- **2b.** i) Quick transference of hands.
 - ii) Push from the hands to elevate hips
 - iii) Squat feet to floor

Backward roll through handstand

2c. i) Reach backwards at the start of the roll





2b. Backward roll tucked



2c. Backward roll through handstand



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It is important to note that it is possible to explore further variations in rolling by varying the starting and finishing positions. **Figure 2.1** illustrates ten simple starting and finishing positions, which, as the figure shows, can be linked together to "create" many variations on a simple forward roll.

Starting Positions

Finishing Positions



Students should be set the task to expore a variety of starting and finishing positions which will add a degree of individual creativity to the set skills of the syllabus. *See figure 2.2.*









Cartwheel

1. Platform

Pass through a vertical plane in handstand with legs straddled

2. Incline

Provides momentum and assists the performance. Should be supported during the initial attempt.

3. Cartwheel – straddled

- Swing the chest and arms downwards and swing into a straddled handstand
- ii) The body should be straight and the head held neutrally
- iii) Press strongly on the first landing leg and lift the arms and chest sideways and upwards
- iv) The hands and feet should be positioned in a straight line





















Taking the load

Handstands

1. Swing to handstand

- i) Shoulder angle open
- ii) Head neutral
- iii) The shoulders lead followed by the back, seat then legs
- iv) Eyes look towards the fingers

2.

A straight body line is desired, **not** arched or dished (see figure 2.3)

3.

A handstand facing the wall – a useful practice (see figure 2.4)

















Correct Figure 2.3 Incorrect

Figure 2.4









1.



Round Off or Arab Spring

- 1. Cartwheel with a quarter turn inwards
- 2. The *"snap up"* from the hands to the feet. Snap the legs down and the arms and chest up to create rotation and flight

3. Platform

Encourage:

- i) A strong leg swing
- ii) A powerful thrust from the hands to develop the flight phase

4. Straddled

- The round off requires a strong drive downwards of the chest and arms
- ii) The hands and feet should be aligned as shown in the diagram below
- iii) A power thrust from the hands is necessary to create the flight
- iv) *"Snap up"* from the hands to cause rotation
- v) The legs close together just before contact with the floor on landing









Handspring

1. Develops the leg drive and strong arm thrust for flight

2. Platform

- Develops the concept of flight from the hands in the flight phase. The head is held in a neutral position.
- **3.** The Springboard will assist the thrust from the hands. The strong leg drive will add to the rotation

4.

- Drive the chest and arms strongly downwards – do not close the angle between the arms and chest
- ii) A strong leg swing will generate rotation
- iii) A powerful arm thrust will create flight from the hands.





2. Platform





4.







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Back Flip or Flic Flac

- 1. Tilting about the feet
- 2. Off balance and sit Feet flat knees behind toes
- **3.** Static Stopping Off balance first
- 4. Sit off balance and leg thrust
- 5. Back flip The back flip will require many supported repetitions during the learning phase
- 6. Platform

Long first flight – high and shorter second flight. Snap up and back flip provides initial rotation and is a useful progression towards the round off back flip. This progression should only be made when the back flip is consistent

 The round off back flip – provides powerful backward rotation









2. Off-balance & sit















Headspring

1.

1.

- i) The hands are placed in line with the head
- ii) The body must tilt *"off balance"* before the thrust from the arms is added
- iii) The legs must be straight as they swing from the piked to extended body position

2. Platform

This will provide greater time in the air during the flighted phase to allow the correct concept to be established

3.

Supported headspring on the floor area

4.

- i) The leg thrust, leg swing and "off balance" create the rotation
- ii) The strong arm thrust will produce elevation and add to the rotation
- iii) The head should be slightly backwards at all times















Backward Somersault

1.

1.

Elevation and forward hip lift

2.

Setting up the elevation and rotation knees to shoulders **head neutral**

3.

The somersault,

- i) Arms up and lean slightly backwards
- ii) Knees to shoulders, hands snap down to shins
- iii) Tuck tight for rotation
- iv) Extend for the landing

4.

"Setting up" the take off from a round off

5.

Round off back somersault. Stand up at take off – hips forward and upwards – head neutral. The use of a safety support harness will be helpful when teaching the backflip and somersault skills

















Forward Somersault

1. The "take off"

- i) Feet arrive on the spring board ahead of the body
- ii) The arms drive upwards above the head and the body pivots forward
- iii) The seat is elevated to the rear and the legs are tucked
- iv) The head remains in a neutral position



1. The "take-off"

2. The Supported somersault

- Assist the elevation and rotation by supporting at the front and rear of the chest
- ii) Avoid over rotation on landing by supporting the chest or catching the arms as they are extended upwards prior to landing



2. The supported somersault

3. The Somersault forwards

- i) Feet forward during pre-jump.
- ii) Lean forward with tight body at the take off – arms strike upwards
- iii) Lift the seat rearwards and tuck tightly
- iv) Extend the legs and body, elevate the arms to slow down the rotation for landings



3. The somersault forwards







Unit 3 Vaulting

Introduction

The effective execution of a vault requires the gymnast to perform:

- i) **A run up:** to develop a suitable level of momentum.
- A pre-jump: low flighted jump to depress the springboard.
- iii) A take off: extending the legs and the body to utilise the resilience (spring) of the board.
- iv) Pre-jump: a forward rotating flight into support on the hands. Slow rotation for squat type vaults. Fast rotation for overswing vaults.
- Arm thrust: a strong arm thrust to create the elevation and desired direction of rotation from the horse or box.
- vi) **Post flight:** this is the main aspect of the vault in which the attitude of the body is varied to create the vault.
- vii) Landing: a controlled landing is essential. The force and momentum being dissipated by control of the hips and leg flexion.

The teaching of good landing technique, take off and arm thrusting skills are strongly recommended before introducing the various vaults. This principle will reduce anxiety and lessen the risk of injury.



1. Pre-jump



2. Take-off



3. Arm thrust



The Prejump and Take off

1. Prejump

- i) Feet arrive on the board ahead of the body
- ii) The arms swing backwards and then forwards
- iii) The board is depressed by the prejump

2. Take off

- i) The body pivots about the feet to lean forward prior to release from board
- ii) The arms drive forwards and upwards to increase the board reaction and give direction to the take off
- iii) The feet lift strongly from the board

Developing Arm Thrusting Strength and Technique

3. Arm Thrust

Sink in the shoulders and then thrust through the arms and shoulders – develop a very fast action.

The momentum of the body in flight onto the horse together with the arm thrust produces the second flight phase.













1. Squat on jump-off



2. Squat over the horse



3. Squat vault - with assistance







4. Squat or through vault





Squat or Through Vault

1. Squat on jump off

- i) Lift the seat
- ii) Head up
- iii) Control the landing

2. Squat over the horse

- i) Reach for the horse
- Strong thrust from the ii) hands
- iii) Lift the chest and squat quickly

3. The squat vault performed with assistance

Ouick and strong thrust from hands – head up i)

4. The squat or through vault

Do not elevate the legs i) above the shoulders during the flight on

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Straddle Vault

1. The straddle on

- i) Raise the seat upwards
- ii) Push from the hands to straddle stand

2. Straddle over

- i) Strong thrust, lift chest
- ii) Straddle over to stand on a platform

3. Straddle over-supported

- i) Thrust head up
- ii) Straddle with extended not piked body
- iii) Close legs for landing

4. The straddle vault

Do not lift the legs above the shoulders during the flight on







1. Straddle on



2. Straddle over

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3. Straddle over - supported



4. Straddle vault







Headspring

1.

Thrust into **off balance** position. Seat moves beyond the point of balance and legs begin to "strike".

2.

Develop the leg swing and arm thrust into the flight off the horse. Head must remain backwards.

3.

Flight onto the horse. "Dish" the body during the flight on and allow the seat to move over the shoulders with the feet still down.

4.

Headspring vault. Combine the flight on and off phases. A deep arch will bring the feet down to the floor prior to landing.





2.

1.









22 5 =

Neck Spring

1.

Lower the shoulders down with the head tucked in. The feet remain behind the hands and the legs are lowered slightly.

2. The Kip Action

The seat is moved slightly off balance, the body is vigorously extended. The arms thrust to create the flight.



2. The Kip Action

3. The Flight On

A moderately high flight is required. The legs are checked and the body lowered onto the shoulders. Head tucked in.

4. Neckspring Vault

- Only a moderate speed of run up is required i)
- Controlled flight on and ii) lowering onto the shoulders is required
- iii) The feet drop slightly before the hip action
- iv) A strong arch brings the feet down for landing

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3. Flight On



----4. Neckspring Vault



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Bent Arm Overswing

1. Long box

Thrust from the legs into bent arm support. Body bent – head back.

2. Long box

From stand on the box bent arm overswing. Strong leg drive for rotation. Strong arm push for elevation.

3. Cross box

Elevated flight on to bent arm support body slightly bent.

4. Cross box

The bent arm overswing vault.

















Handspring Vault (Long Arm Overspring)

1.

The flight on and thrust from arms with spring board on platform assistance.

2.

Flight on and arm thrust from a padded box onto platform. Develop heel speed from the board – body straight.

3.

Second flight off the box. Head neutral and strong arm thrust – body remains tensioned.

4.

The Handspring Vault

Assistance onto box

- heel speed
- strong arm thrust
- head neutral
- body tension

All are essential





4.







Cartwheel Vault with ¹/4 Turn

1. Long box

From stand – cartwheel through handstand with legs together. Perform a ¹/4 turn.

2. Low box and platform

Take off forwards and make a quarter turn into handstand on the box. Push off and turn inwards to land face down on safety mat.

3.

As above but with a higher box. Develop the flight on and thrust off.

4. Cartwheel Vault

Strong heel drive, powerful arm thrust. Maintain body tension. Care should be taken upon sideways landing to avoid poor landing.











Yamashita Vault

The ability to perform a competent handspring vault is a pre-requisite for the Yamashita Vault.

1. Vee Sit ups

For conditioning.

2. Box longways

Handspring pike body fold extend to land.

3. Crossbox and Platform

Handspring from the box with a slightly dished body. Check the legs and vigorously move the chest to the legs in the fold.

4. Yamashita Vault

Fast leg speed, early arm thrust and check legs. Rapid fold of chest to knees. Stop the chest and drive the legs down for landing.



4. Yamashita vault



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Unit 4 Physical Conditioning

As with all sports and events fitness for gymnastics is specific, and any preparation which a gymnast undergoes must relate to the following factors:

The demands of the sport The needs of the gymnast The time of year

Training

In order to become fit it is necessary to undergo a process known as TRAINING, which must be carefully structured and monitored in accordance with the above factors.

Training is said to be governed by 4 "laws"

Specificity	All preparation must relate to the sport, the individual's needs and the time of year.
Overload	The workload must be sufficient to put the body systems under stress, because only in this way will they become stronger and more efficient.
Progression	The training load must be built up over time to cater for the gymnast's improved standard of fitness and create the necessary overload.
Reversibility	The <i>"use it or lose it"</i> law, i.e. following a medium to long term lay off, gains made will be diminished and eventually lost.
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Fitness

Fitness is said to be comprised of the following integral elements:

Stamina Speed Strength Suppleness/Flexibility Psychology and skill

In this section it is mainly the first 4 factors which will be discussed, although in a sport such as Gymnastics, skill and technique are always included within a physical conditioning programme

Physical Assessment Tests

The specialist techniques and skills of gymnastics demand that the body should be both ready and fully prepared to fulfil these demands. In order to assess a student's "readiness" and ability to undertake gymnastics training staff may administer a basic physical assessment test (*see Figure 4.1*). In addition to "readiness" this test may also be used as part of the control process of training, i.e. to monitor the effectiveness of specific training regimes, or to check on a student's progress over a period of time.

The test is divided into four sections which relate to the four essential physical components of gymnastics.

Power Speed Strength Flexibility

NB. It is important to emphasise that the results of such tests should always be viewed with respect to individual differences of sex, chronological age and previous experience in the sport.

Results may be entered and logged using the chart in Table 4.2 overleaf.







A. Basic Physical Assessment Test: Figure 4.1









Physical Assessment Record Sheet: Figure 4.2

Name









Physical Preparation for Gymnastics

Competitive gymnastics is extremely demanding both physically and mentally. A high level of fitness is required. The components of fitness most relevant to gymnastics are: Flexibility, Strength, Endurance and Power. Flexibility is an important factor in the physical requirements. A full range of joint mobility will;

- i) enhance the learning of gymnastic elements
- ii) permit aesthetic expression
- allow the demonstration of amplitude (extension of the body and a iii) maximum range of movement in a skill)
- iv) greatly reduce the risk of injury

Flexibility training should be slow, progressive and prolonged and should only be performed after a thorough general warm up. A full range of movement is best achieved in early childhood, 6-10 yrs, since the muscle fibres and connective tissue are more amenable to stretching during this period of growth. Both sides of the body and both agonist and antagonist muscle groups should be equally stretched through the full range of movement. See Figure 4.3.

Flexibility Training

The selection of exercises shown in Figure 4.4 indicate the range of movement required by a top performer after many hours of training. This degree of flexibility would not be expected in a general gymnast but some element of mobility in each area will enhance the ability to attain the listed gymnastic elements.

A thorough general warm up to raise the body and muscle temperature should precede the flexibility training period.

The exercises should be performed as:

- Slow and progressive held for six to ten seconds and slowly a) progressed in a range of movement
- Prolonged once the range has been established the stretched b) position should be held for increasing periods up to 30 second duration.

Each exercise should be repeated 3 to 6 times in each set.

The exercises are performed as:

- Active Stretching Exercises: The gymnast practices unassisted i) and applies internal muscular force to stretch the opposing muscles.
- Passive Stretching Exercises: The gymnast should relax the ii) muscles (become passive) and the partner applies external force to cause the appropriate muscles to be stretched.













Fiaure 4.3 Undertaken only under careful supervision

Hamstring stretch

Agonist contracting - working muscle (Quadracep)

8.

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Protagonist muscle being stretched (hamstring)

Quadracep stretch

Antagonist contracting muscle - hamstring



Protagonist muscle being stretched (Quadracep)









11.





A selection of flexibility exercises Figure 4.4













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13.

















26.

30.





28.

34.

27.

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Strength Training

In order to perform gymnastic skills, a gymnast will require a degree of strength appropriate to the level of skill to be practised. A top level performer will commence the training year with 70% of the training time devoted to physical preparation and this is gradually reduced to between 20-30% during the competition season.

The majority of conditioning training involves the use of the gymnast's own body weight as the resistance in exercises which relate closely to the gymnastic skills to be performed. Weight training is sometimes used to improve strength in specific muscle groups, but only with older, well prepared gymnasts.

A gymnast must perform exercises which involve, isometric strength (static held parts and mid body tension), basic strength (presses to handstand), power (vaulting push from the hands – take off for somersaults) and endurance (to perform the many repetitions required when practising a skill).

Exercises are chosen which are very specific to a particular action or general in nature.

A circuit of exercises is selected, usually between 8-10 different exercises, each involving differing actions, shapes or muscle groups. The degree of difficulty of the exercise and the number of repetitions to be performed is varied according to the particular aspect of fitness to be trained.

Endurance Fitness: simple light load and high repetitions – 30-50

Basic Strength: max load/ difficulty and low repetitions – 3-6

Power Strength: medium load/ difficulty and medium repetitions - 6-10

Isometric Strength: static held parts held for periods progressing from 5 seconds upwards

The order of the exercises within the circuit is selected to avoid the consecutive use of similar muscle groups.

A selection of typical gymnastic strength exercises is shown with a guide to the level of difficulty and number of suggested repetitions. (See Figure 4.5).



Selection of Physical Conditioning Exercises: Figure 4.5







Endurance Strength

Endurance Strength is required to permit the high number of repetitions required during the learning and training of skills and routines. Endurance is usually developed through *"circuit training"* of gymnastically related exercises *(See Figure 4.6).*

A target of a number of repetitions of the exercise in a given time may be set and a fixed rest period is stipulated.

The load demand may be varied by increasing the number of repetitions in the given time; increasing the duration of the exercise period; reducing the rest intervals.

Power Strength

Power Strength is essential to produce the explosive or dynamic movements required in gymnastic skills. Power is developed by rapid repetitions (5-8 reps) of exercises which simulate as closely as possible the gymnastic skill. The demand should be such that the muscles are partially fatigued by *"overloading"* the muscles. This type of training must be performed with technical accuracy and should be performed at the beginning of the training session while the body is fresh.

Rest recovery periods between sets of exercises are also of great importance to ensure accuracy in performance and greatest strength gains.

Load = 50-80% of Maximum: 5-8 reps; 4-5 sets; Rest Intervals 5 minutes.

Training for strength gains should be progressive and should incorporate the *"overload principle"* in which the muscles enter the fatigue zone through working at a level above that which is normally encountered.

The selected exercises should relate closely to the gymnastic elements in order that the strength gains are specific to the muscular actions required in the gymnastic skills (*See Figure 4.7*).

Strength training should be continued throughout the year, even during the competitive season. The gains in strength are reversible if training is stopped for more than 7 days.



Figure 4.7





Handstand dips



Time duration 30 seconds - rest interval 30 seconds

1. Vee Sits



UNIT 5 Mental preparation

Mental rehearsal techniques are of immense value in both gymnastic training and competition. Intrinsic and extrinsic imagery permit the gymnast to mentally rehearse the pattern of movement involved in the performance of a particular skill or routine. Intrinsic imagery permits the gymnast to create an image of himself/herself from an internal view of what he/she will see or feel during the peformance of a skill. An external or extrinsic image will allow the gymnast to view the performance as if he/she was watching the performance on a video screen.

This will enhance the learning potential, by increasing the frequency with which the skill is rehearsed and aid the development of a good concept of the skill. It may also reduce the fear element and permit the elimination of thoughts concerning unsuccessful events.

Mental preparation for competition should include simulated competition within the training environment. This would usually include the performance of routines, in the presence of his/her fellow team members, parents and judges. The introduction of distractions into the simulated competition period will develop the gymnast's ability to deal with a variety of events within a competition.

Relaxation techniques are also extensively used in gymnastics to enable the gymnast to cope with events which may involve competing over three days and the irregular sequence of warm up, compete and rest that occurs during a competition.

The stress of competition will often cause the gymnast to feel threatened and this will cause him/her to become anxious and the level of performance may be drastically affected.

Mental relaxation can therefore be usefully employed to quieten the mind and thus permit the gymnast to deal with the various events which cause the anxiety. The level of arousal can then be controlled at the desired level to promote optimum performance.

Deep concentration on some aspect of the body – particularly the rhythm of breathing together with the repetition of a "mantra" (word or phrase) can centralise one's thoughts and reduce anxiety.

Other methods of reducing anxiety to permit mental relaxation are: mental rehearsal of a skill or routine; listening to music, particularly baroque music; setting realistic goals which are in the control of the performer and "positive self talk" to reinforce self confidence.

Suggested Reading Mental Preparation

- 1 Nidiffer R & Sharpe C ACT Attention Control Training: How to Control Your Mind Through Total Concentration, Human Kinetics, Illinois, 1985.
- 2. Orlick. T. Psyching for Sport: Mental Training for Athletes. Leis Press, Illinois, 1986.
- 3. Rushal. B. Psyching for Sport: The Psychological Preparation for Serious Competition in Sport, Pelham, London, 1979.
- Syor. J & C. Connolly, Sporting Body Sporting Mind, Cambridge University Press, Cambridge, 1984.
- 5. Tutko. T & U. Tosi, Sport Psyching, Tarcher, Los Angeles, 1977
- 6. National Coaching Foundation. Leeds. "Mind over Matter". Introductory Study Pack.







UNIT 6 The Gymnastic Programme

The gymnastic calendar usually comprises 2 competitive cycles in each year and the type of training will be varied according to the phase or period within the calendar. *(See table below)*

Periodisation of Training and Competition							
Month							
1 2	3 4	5 6	6	7 8	9 10	11 1	2
Preparation	Pre Comp	Comp Phase 1		Prep	Pre Comp	Comp Phase 2	
General Endurance	Max Strength Power	Specific Strength	R E S T	Max Strength Power	Power Strength	Specific	R E S T
60% C 40% S	40% C 60% S+R	30% C 70% S+R		60% C 40% S	40% C 60% R	30% C 70% R	
C= CONDITIONING			<i>S</i> =	SKILLS		R = ROU	TINES

The structure of the training session will vary according to the period within the programme but will usually follow the following format:

- i) warm up general warm up and light stretch
- ii) power conditioning or flexibility training
- iii) skill training repetition of skills or routines
- iv) general conditioning either specific or endurance
- v) warm down to reduce the body temperature to normal and allow the dispersal of wasted products i.e. lactic acid.

A top international gymnast would train six days per week, two or three sessions per day and in excess of 30 hours training per week. The daily training load would be varied to accommodate a degree of recovery from the sessions with heavier demands.

A regional gymnast would however train for around 15-20 hours per week and a club gymnast for between 10-15 hours per week.







UNIT 7 Prevention of injury

In any physical activity there is always an element of risk and the potential for injuries to occur. As with the teaching of all aspects of physical education there are certain common sense procedures which staff can follow to minimise the risk of injury to a student:

- 1. Always ensure that a safe well padded environment is created and maintained.
- 2. Prepare the gymnast carefully and thoroughly by improving flexibility and strength.
- 3. Teach basic landing techniques and safe methods of falling as special skills prior to teaching gymnastic elements.
- 4. Thoroughly warm the class up before commencing the gymnastic content of the lesson.
- 5. Use safe progressive elements to teach gymnastic movements.
- 6. Select specific gymnastic movements to suit the ability of an individual gymnast.
- 7 Be aware that fatigue will reduce the gymnast's accuracy and will escalate the risk of injury.

First Aid and Emergency Procedures

Wherever gymnastics is being taught it is essential that emergency procedures are accessible and are fully understood by everyone participating in the session.

It is essential that the following are always available:

- a) Access to an outside phone-line, with instructions on use.
- b) Relevant numbers, including the nearest casualty department.
- c) A fully stocked and maintained First Aid kit*.

*Recommendations for a First Aid kit are to be obtained from an authorised first aid body.

In the event of an accident it is essential to take the necessary measures as laid down by your own school or Local Education Authority.

Most Frequent Gymnastic Injuries

- 1. Blisters caused by new or badly fitting gymnastic shoes and friction on the hands.
- 2. Abrasions or friction burns caused by contact with mats or apparatus.
- 3. Muscle injuries usually caused by tiredness or insufficient warm-up.
- 4. Torn muscles caused by a heavy blow or excessive load.
- 5. Tendon injuries in wrist, forearm and Achilles tendon.
- 6. Ligament injuries usually at the ankle and knee joint and caused by the vigorous rotations and turning motions through an abnormal range.
- 7. Bruises caused by bleeding as a result of a fall or blow.

Again, the best advice is for staff to seek training in First Aid and to deal with injuries which occur in the gym in line with the guidelines prescribed by their own school or Local Authority.

More serious injuries occur infrequently in gymnastics but injuries to bones and joints, concussion and spinal injuries should never be underestimated and qualified medical help sought should be immediately.







UNIT 8 The Rules and Regulations

The Structure of Events

At school club or gymnastics' club level it is possible to compete in events comprising of individual or team floor and vaulting competitions.

The requirements may include:

- A compulsory floor routine or a number of set gymnastic skills and/or a voluntary floor exercise comprising linked skills. Girls would normally perform to music.
- A compulsory vault and/or a voluntary vault. Each vault is given a tariff according to its degree of difficulty.

Awards are made for floor work, vaulting, combined, individual and team results.

The rules are usually devised locally according to the needs of the schools or clubs regarding level of participation etc.

Composition of a Floor Routine

The routine should be constructed to include a variety of tumble elements (gymnastics' skills) linked together with jumps, spins, and dance elements. It should demonstrate a mixture of strength, flexibility, balance, slow and dynamic work.

The duration should comply with a stipulated period of time. Women usually perform to music.

The routine is judged according to its difficulty of elements, its fluency, amplitude, control and technical execution

Apparatus Dimensions

The dimensions and height of the apparatus are to an International standard and are fixed for Senior events. The height of the apparatus may be adjusted to suit the needs for Junior events.













Vaulting

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The vault is judged according to its tariff and considerations are made concerning flight on, flight off, elevation, distance carried, shape of body, alignment and a controlled landing.

The Structure of Artistic Gymnastic Events

In Men's/Boys' apparatus events, the gymnast would perform compulsory and/or voluntary routines in Floor Exercise, Pommel Horse, Rings, Vaulting, Parallel Bars and Horizontal Bar. This being the statutory order of rotation of apparatus.

Women/girls would similarly perform a compulsory routine and/or voluntary exercise on Vaulting, Asymmetric Bars, Beam and Floor in that order of rotation.

The performance is judged by a minimum of one master judge and four judges. The highest and lowest scores of the four judges are discarded and the average of the middle two scores is taken as the score obtained. The master judge ensures that the allocation of marks is within prescribed limits and also determines the start value of the exercise.

u.y.					
Master Judge	1 anhul	2 anhul	S onhul	A anhul	Score
master suuge	Juugo i	Juuyo L	Juugeo	Juuyo T	00010
9.3	9.5	9.1	9.2	9.4	9.3
3.0	9.0	9.I	J. Z	3.4	3.0

The voluntary routines must include particular types of movements and contain movements of graded difficulty. Deductions are made for lack of difficulty, omission of stipulated types of movements and for poor form or technical faults.

The controlling influence on the pertormance is provided by the following principle as quoted in the judging "Code of Points":

"The exercises in content must correspond with the ability of the gymnast. The degree of difficulty must never be escalated at the expense of good form and technical execution. The gymnast must be in complete control of his body. Assurance, elegance, and flexibility are pre-requisites of exercises and must not be violated."

A team at an international event would normally comprise 6 gymnasts, with the highest five scores on each apparatus counting towards the team total. Each gymnast must work at all six men's apparatus, or four women's apparatus. However the format will vary according to the type of competition.

The individual all-around scores are obtained by adding together the scores obtained by the individual gymnast on each apparatus. Once a gymnast has commenced the competition he/she cannot be replaced by the reserve gymnast.

Usually up to two coaches and two judges travel with the team to international events.







UNIT 9 History of the Sport of Gymnastics

A limited form of gymnastics may have been practised by the Chinese and Egyptians as early as 3,000 years' ago. However, the term "gymnastics" was not introduced until the era of the Greeks and Romans. It was impossible to practise the strenuous activity involved in gymnastics in the heavy garments worn during this period and therefore the athletes would have removed their clothing and performed naked. These naked athletes were known as "gymnasts", which was derived from the Greek, "*Gymnos*". During this period the term gymnast was used to describe an athlete who participated in activities such as wrestling, throwing, running etc. Later the term gymnastics was used to describe collectively all sports which were performed inside a gymnasium.

It was in the early 19th century that the introduction of Ling's Swedish form of free gymnastics and Jahn's apparatus-based gymnastics became the standards for gymnastics within both education and clubs.

German immigrants to Britain began to establish clubs based on Jahn's *"Turner Bund"* principle, and a German gymnastics society was formed. Gymnastics' clubs began to flourish throughout Great Britain and in 1888 the Amateur Gymnastics Association was formed. At that time activities such as fencing were affiliated to the Gymnastics Association and the sport of Trampolining was first established under the Association's banner, although it later formed the Federation which is the sport's current Governing Body.

In the early years the Association governed both men's and women's Artistic Gymnastics, and in more recent years other aspects such as Rhythmic Gymnastics, Sport Acrobatics and Recreational Gymnastics have been added.

The British Amateur Gymnastics Association is now the controlling body for all gymnastics activities including performing, coaching, judging and the organisation of all gymnastic events.

The improvement in awareness and technical knowledge of the coaches with regard to physical preparation and technique has caused the sport to develop rapidly over the last two decades. Advancements in the apparatus and training aids also helped the rapid progression of very complex skills. Notable developments in the apparatus include the introduction of a carpeted and sprung floor area, the modern type spring board and the sprung-top vaulting horse, the extensive use of the rebound or trampoline situation and the introduction of the foam-fitted landing pit permitted the safe learning of advanced skills.

The Structure of the Sport

The world governing body is the **Federation Internationale de Gymnastique** (FIG) and this body decides upon the policy, philosophy, regulations and matters concerning the major events and international competition.

The British Gymnastic Association (BGA) controls all matters concerning gymnastics in the U.K. There are thirteen geographical *regions* which conform to the sports council regional boundaries. Each region is autonomous, has representation on the BGA Board and controls matters within the region. A number of the regions are also sub-divided into Counties.

The structure of the BGA: CLUB Gymnastic Club or School Club COUNTY Association – Squads – Events REGION Association – Squads – Events NATIONAL Association – Squads – Events INTERNATIONAL Events – Olympics – World Championships – European Championships





UNIT 10 Current Issues

1. Drugs in Sport

The sport of gymnastics has openly participated in the testing for drugs and there has been no evidence of the use of banned drugs in the sport. Accusations have been made with regard to the *"immense power"* that male gymnasts develop. This however is down to the great volume of conditioning training that the gymnast performs and not related to drugs at all. The intentional use of drugs in gymnastics is unlikely since the drugs which may produce an advantage have many side effects which would be deleterious to the performance of the gymnast. The following indicate how drugs would affect the gymnast's performance:

i) Stimulants

Stimulants can increase alertness and reduce fatigue but they can seriously create loss of judgement which is a critical aspect in a gymnastic performance.

ii) Anabolic Steroids

Anabolic steroids such as testosterone may improve strength and power but they also produce a massive increase in bulk. This would be detrimental to the power to weight ratio which is of prime importance in gymnastics.

iii) Beta-blockers

These can be used to control hypertension but may affect the response time which is again critical in gymnastic activities.

iv) Diuretics

Rapid reduction in weight can be achieved through the use of diuretics but the serious health side effects and loss of strength and power would not benefit the gymnast.

v) Blood Doping

Blood transfusions of red blood cells may have advantages in endurance activities which are mainly of an aerobic nature requiring oxygen within the blood to release the required energy. Gymnastics is predominantly an anaerobic activity and consequently blood doping would not provide any advantage.

It can be seen from the above comments that drugs cannot play a useful role in gymnastics and it is likely that gymnastics will remain a *"clean sport"*.

2. Women in Gymnastics

The intensive training undertaken by female gymnasts throughout the adolescent pubescent period can reduce the physical development of the gymnast. However, once intensive training is stopped the female will develop normally without long-term effects.

Intensive training may also delay the onset of menstruation, even until the late teens, but once the training is reduced the cycle will commence without abnormalities.

3. Professionalism in Gymnastics

Gymnastics in Great Britain is still very much an amateur sport. A very small number of gymnasts are fortunate to receive training grants or sponsorships which are used strictly to offset the high cost of training. This finance is administered by the BGA. A top gymnast may train between 30-35 hours per week – 50 weeks of the year. This creates a tremendous financial burden upon the gymnast and his/her family.







It is well known however that gymnasts abroad are given *"Scholarships"* and *"grants"* according to their level of achievement which enables them to become full-time gymnasts, a great asset when one considers the vast amount of training and expense incurred.

It is envisaged that the future of top British gymnasts will be enhanced by the opportunity to receive greater financial assistance through sponsorship grants, bursaries, and National Lottery grants under a World Class Performance programme.

4. Gymnastics and the Media

The spectacular sport of gymnastics has always been a popular television event with the viewer and the coverage, while not extensive, has enticed sponsors to support the television events. Recently however, certain TV companies have reduced the number of sports they are to cover and consequently this has had an adverse effect on sponsorship for gymnastics.

The BGA has previously enjoyed sponsorship for its major manifestations from one of the large newspaper groups but still the coverage in the national press continues to be spasmodic and generally limited.

Gymnastic clubs do however enjoy the support of the local press which helps to publicise the existence and success of the sport locally.

5. People with Special Needs

Gymnastic activities are often thought to be suitable only for the more able person and unsuitable for the disabled person. Nothing could be further from the truth.

People with special needs are gaining enormous benefits through participation in purpose-designed gymnastic programmes. The beneficial effects include improved mobility, strength, co-ordination and concentration. The attainment level is also very high with quite complex skills and routines being performed.

The first Gymnastic Coaching Awards for coaches specialising in Special Needs activities were launched in 1986. These were initially in the area of the mentally handicapped but the programme has now been expanded to include physically disabled and sensory impaired persons.

The growth in disabilities Gymnastics is tremendous and the level of participation ranges from recreational and educational, to display work and competition.

Local authorities now include gymnastics in the programmes at Special-Needs schools and a number of gymnastic clubs also offer classes for disabled participants.

Further information concerning Gymnastics for disabled people can be obtained from BGA., Lilleshall NSC, Newport, Shropshire TF10 9NB

6. General Gymnastics

WORLD MANIFESTATIONS: The major celebration for Recreational or General gymnastics occurs every four years and is known as the WORLD GYMNAESTRADA.

The Gymnaestrada is a non-competitive festival of gymnastics, dance and movement organised by the world governing body (FIG). Gymnasts from all countries demonstrate and perform gymnastic displays which reflect their individual cultures and their joy of human movement.

The Gymnaestrada has grown from national festivals into a major international manifestation.





Unit 11 British Gymnastics Award Schemes

The BGA offers a range of awards in a new awards scheme launched in 1999. The badge scheme is progressive from beginner level and incorporates all disciplines of the sport. Details of this immensely popular award scheme can be obtained from British Gymnastics, Ford Hall, Lilleshall National Sports Centre, Newport, Shropshire tel: 01952 820330 fax: 01952 820326.

Award Schemes

BG Coaching Awards Scheme

The coaching awards scheme is a coaching educational programme aimed at developing the quality of gymnastic coaching in the UK. It provides a programme of training for all coaches ranging from beginner to international standard.

Award Requirements

To qualify as a BG Coach, candidates must comply with the following:

- A. Achieved minimum age: Assistant Coach – 15 years Other levels – 18 years
- BG Membership: Assistant Coach – Associate Membership Other levels – Full Membership
- C. Attended the appropriate course and completed the post course experience and logbook.
- D. Hold the pre-requisite knowledge and ability for that level.
- E. Pass the appropriate examination.

The Structure of Coaching Awards

Gymnastics Coaching Awards are available in six disciplines:-

Men's Artistic Women's Artistic Rhythmic Gymnastics Sports Acrobatics General Gymnastics Team Gymnastics

There are five levels of award in each discipline:

Assistant Coach: To assist the qualified Coach.

Club Coach:

1st level of responsibility to coach a class or group.

Senior Club Coach: County – Regional coaching. High Performance Coach: National level of coaching.

International Performance Coach:

International level of coaching. In addition to the above awards, additional optional modules are available in General Gymnastics. The modules include such topics as Coaching people with disabilities, Dance and Choreography; advanced trampette work and they are available to any coach holding a BG Coaching Qualification at the appropriate level.

Specialist Awards

The BG offers specialist coaching qualifications at Assistant, Club Coach and Senior Club Coach level in the Coaching of Pre-School age children. There are also modules available as supplementary awards to any BG Coaching Qualification. Full details are available from the BG.

National Vocational Qualification

National Vocational Qualifications for Gymnastic Coaches are available at Levels 2 and 3, Level 4 is also imminent. The NVQs are available in coaching children and coaching adults. Details are available from the BG.

Teacher Awards

Teacher Awards for Curriculum Gymnastics are available through a network of colleges of Education which will act as Focal Centres for Teaching Gymnastics. Students can take the award through the college syllabus, and colleges will also offer Inset courses on the new syllabus for practising teachers. An Extra Curricular Gymnastics Teacher Award is also available for teachers wishing to run after school gymnastic clubs. The holder of a BG extra curricular teachers award will be eligible to attend the BG **Coaching Courses at Club Coach** level if they wish to further their interest in gymnastics.

Commencement through the Awards

Coaches should commence at Assistant Coach level and progress systematically through the awards. Persons with suitable experiences or background may enter at Club Coach level, subject to the BG approval. A Coach wishing to coach competitive gymnastics or National Development Plan should be suitably qualified in the particular gymnastic aspect. A coach wishing to coach pre-school children, or children with special needs must hold an appropriate BG qualification and specialist module. Coaches should only work at the level and in the discipline in which they are qualified.

Preparing for an Award

The following guidelines are recommended:-

- Study the syllabus carefully
- Join a BG affiliated club
- Apply for a BG membership
 Read a selection of the
- recommended literature
- Apply to attend a BG course at the appropriate level
- Attend the course
- Complete the Post Course Logbook
- Apply to take the examination

Examinations

The examination for Assistant Coach is a practical examination only. All other Levels of Award

An other Levels of Award comprise the Common Core Theory Exam, Sport Specific Theory Exam, a practical examination and the successful completion of a Logbook. The emphasis will be on the effective practical coach who can evidence a good theoretical under pinning knowledge.

Components of the Awards

Each of the six levels of awards is comprised of three modules:

1. Common Core Modules

Topics included at various levels are: Code of Ethics and Conduct Teaching Technique Club/Class Management Communication Safety and Responsibility First Aid Planning and Physiology Psychology and Sociology Physical Preparation Flexibility and Strength Training Protecting Participants in Gymnastics

2. Sport Specific Theory Module

- Includes topics such as:
- Biochemicals
- Talent Identification
- BG Award Schemes
- National Development Plan
- Construction of Routines
- Judging Code

3. Sport Specific Practical Module

- Recommended safe practices
 The progressive development of gymnastic elements. (The level of element increased with the level of the award.)
- Dance and Choreography
- The use of a Trampoline and Trampette as a aid to teaching gymnastic elements

Duration of Courses

Assistant Coach	24 hours
Club Coach	35 hours
Senior Club Coach	35 hours
High Performance	35 hours
Coach	
International	35 hours
Performance Coach	

Following attendance of the course there is a period of post course practical experience during which time a logbook is completed.

Further Information

The syllabus, application forms and further information can be obtained from:

British Gymnastics Ford Hall Lilleshall National Sports Centre Newport Shropshire TF10 9NB Tel: 01952 820330

The BG Coaching Award Scheme is linked to the National Coaching Foundation Courses. Further details of the NCF Courses can be obtained from:

National Coaching Foundation 114 Cardigan Road Headingley Leeds LS6 3BJ





Publications

General

World Identification System for Gymnastic Talent Diagnostics, Treatment and Analysis of Gymnastic Talent Psychological Nurturing and Guidance of Gymnastic Talent.

By: Salmela, Petiot Hoshizaki SET OF THREE BOOKS by J. Prestidge

British Gymnastics Publications

Mens Artistic

Men's Gymnastics Coaching Manual by Lloyd Readhead BG's Men's Artistic Sport Specific Resource Pack NDP Booklet

Womens Artistic

BG's Women's Artistic Sport Specific Resource Pack Women s Coaching Manual by C. Still 1990

Recreational Gymnastics

General Gymnastics Resource Pack Club Coach Assistant Coach Resource Pack

Common Core

Assistant Coach Club Coach Senior Club Coach

Information from

British Gymnastics Ford Hall Lilleshall National Sports Centre Newport Shropshire TF10 9NB Tel: 01952 822 300

NB. A Publication list can be obtained from British Gymnastics



