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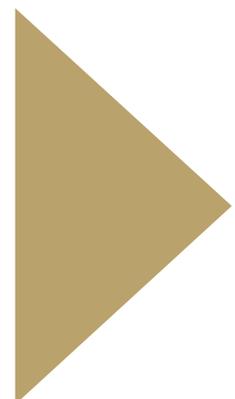
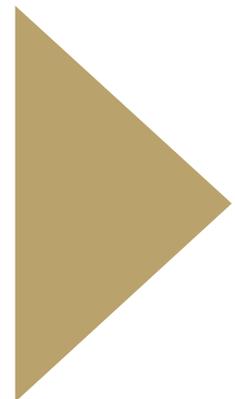
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TEACHING MANUAL FOR TIGHT WIRE AND SLACK ROPE

Physical Preparation for Tight Wire and Slack Rope

Dance training is very good preparation for both wire and rope as this trains the posture and legs in the correct way. If a student doesn't have this background then it is important to train the postural muscles and the legs. Some aerobic training is also important as the student will be staying on the wire for a long time whilst training. For this reason, interval training can also be very useful.

Interval training:

Interval training requires the individual to repeat a number of exercise bouts for a set time with a certain rest interval between each bout. The rest interval can be completely sedentary, but often involves a lower rate of working to assist recovery or to increase the intensity of the work out. This type of training is also known as 'Fartlek'.

Two interval training schedules are presented below which could be relevant to working the wire and rope. One is specific the other more general and designed to increase aerobic power.

1. Specific: Work and rest intervals are both 1min 30secs long

Work interval 1: walking on wire

Rest interval 1: sitting with knees bent, back to wall

Work interval 2: walking backwards on wire

Rest interval 2: as RI 1

Work interval 3: running on wire

Rest interval 3: as RI 1

Work interval 4: walking backwards on wire

Rest interval 4: as RI 1

Work interval 5: walking on wire

Rest interval 5: as RI 1

part1/ Physical Preparation

□ 2. General endurance:

5 x
 Work interval – sprint 10 secs
 Rest interval – jog 5 secs
 Repeat x 3

□ Teaching Methodology ●

There are obviously many approaches to teaching balancing on a wire or a rope, but certain practises might help the teacher to improve their students.

Highly important for the potential performer on wire or rope is dance training. If a student begins to learn with a background of dance they will have a great advantage. For those who don't it is important to include dance training in the normal sessions. Equally important and often synonymous with dance training is a sense of rhythm and musicality. A normal session on the wire should include a dance warm-up to music and once the first steps to balancing have been achieved and the student can walk comfortably on the wire then it is useful to use a metronome for basic training. During this the student must learn to cope with balance in his or her own way, but in such a way that the audience don't notice.

During a session the student should spend as much time on the wire as possible. Using the metronome helps by making the individual think of the timing and rhythm and not so much about the skills. In this way the skills are learned through proprioception and become internalised. If the student has to think of what he or she is doing then they more than likely will fail.

All movements can be practised on the floor to learn and internalise the basic actions, foot patterns for instance. Develop skills from the floor to a low wire and eventually the performing height. Always use safety mats and make sure the student is confident. Fear causes a breakdown in skill, and the fine control needed for balancing is impossible if the pulse is racing and the limbs shaking!

Below is a suggested structure for a 2 hour session on wire or rope. There are obviously many other ways to structure a session.

Warm – up, dance, with music	30 mins
Basic skills (relevant to level of performer)	20 mins
Already learned skills	20 mins
New skills	20 mins
Games and conditioning	20 mins
Warm – down	10 mins

For beginners with no background of dance or other acrobatic activities you will need to include separate sessions for stretching and improving posture/body condition within the programme.

There is considerable debate to the merits of using a prop for balancing, such as a fan. Generally, it is not believed to be a good thing to use a balancing aid to begin. When the student has progressed beyond the basics then he or she can decide if they want to or not. If a fan is held in one hand then it is important that the other arm moves in an aesthetic way.

Basic Rules for Learning Tight Wire

- 1. Before walking on the wire, try to stand on one foot and feel the balance. Try this on both feet. Experiment with the spring of the wire.
- 2. When you begin to walk, make sure you have the correct posture
- 3. All activities on the wire:
 - Standing
 - Walking (forwards and backwards)
 - Turning (forwards and backwards)
 - umping
- Should all be done:**
 - With the rhythm of the wire
 - Without the rhythm
 - Against the rhythm
 - Changing the rhythm

All of these at different speeds

EQUIPMENT SPECIFICATIONS AND SAFETY

BASIC EQUIPMENT GUIDELINES:

- Wire thickness:** This is usually 12 – 13mm
- Length:** Usually between 5 – 7m
- Size of Platform:** To personal taste but usually around 35cm diameter
- Tension:** Variable according to taste
- Angle to fixing points:** A low angle is better as this causes less stress on the fixing, generally no higher than 45°
- Springloading:** Most modern wires are sprung, but it is not absolutely necessary. Once again it depends on personal taste. If a spring is to be used then it is essential to use a tirfor to control the tension.
- Height:** Beginners – around 50cm, progress to 1m. Competent performers 2m

SAFETY

- Environmental considerations:**
- Visibility:** To see the wire it is obviously necessary to have adequate lighting, also avoid lights shining in the eyes.
- Human traffic:** It is important to control the passing by of other people. This can cause a distraction to the student. When planning where to put a wire set – up it is important to bear in mind the normal traffic routes for people
- Levels of Skill:** No student should be progressed onto skills for which he or she is not ready. The progressive build up of skills, with success at each level is the only way to proceed safely.
- Respect for Students:** Teachers should respect students fears and not bully them into trying skills for which they are not psychologically prepared. If a teacher feels a student is ready for a skill and the student is afraid to do it, then they should discuss the problem and look for ways to increase the student's confidence.
- Falling** It is generally regarded as safe practice for tight wire to catch the wire when you fall. However it is not such a good idea to teach this at the earliest stages as it can result in students losing balance and reaching down for the wire as a reflex action. It is better introduced at a later date when the student is beginning to work on higher wires

part2/ Basic Techniques on Tight Wire

 Equipment considerations: **Mats**

When learning skills or just practising generally, safety mats should be placed under the wire. There should also be a mat placed over the top of the safety mats to ensure there are no gaps. Avoid using grey mats as it is difficult to see the wire with a grey background. When learning skills the mats should be at a height so that the student can stand with his or her legs either side of the wire.

 Lunges:

Lunges can be used for learning advanced skills. It is important that the angle of the rope from the belt is not too small to avoid snagging. All couplings and belts should be checked on a regular basis, also check ropes for fraying. Only a qualified person should operate the lunge

 Clothing:

Loose clothing should be avoided as it can catch. It is also not possible for the teacher to see mistakes in posture if the clothes are too loose. Shoes should be soft with a soft leather sole covering the instep. These should also have smooth seams to avoid catching. Either boots or shoes can be worn but they should not have a heel.

 Tension of Cable:

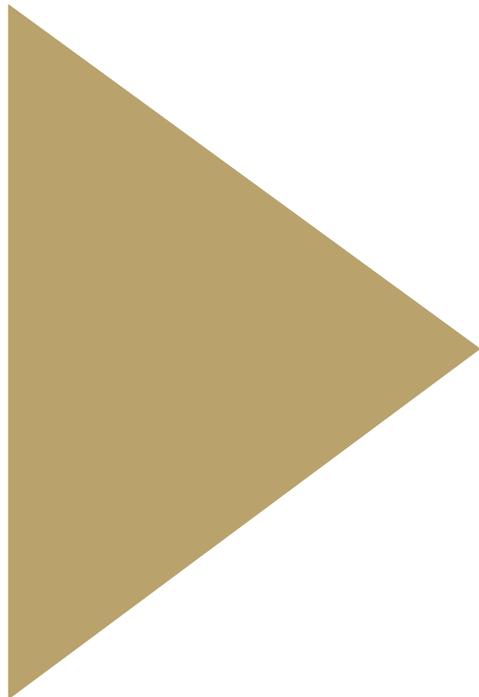
Tightening the cable too much can weaken fixings and cause other problems. Use a tensioner or a bottle screw to adjust the tension. Also check cables for fraying as there is 2 – 3 tonnes of weight on the cable when you work on it. All equipment should be kept dry.



- This type of wall fixing needs to be able to take a huge strain. Fixings should be clearly marked to say if they have been officially tested to the safety standards required.



□ Tensioners (tirfor) can set the correct tension on the wire



BASIC TECHNIQUES

1/ BALANCING ON THE WIRE

feet positions:

Feet in line

- The feet are in line with the wire running through the centre of the foot and between the big toe and the rest of the toes.
- The weight is evenly spread across the foot



Feet in 3rd Position

- The feet are turned out and the wire runs across the instep
- Weight evenly distributed



Standing sideways

- The wire runs across the insteps of both feet
- The toes should press down to keep tension



Standing on toes sideways

- The wire runs across the bottom of the joint between the toes and the main body of the foot.
- Toes should be pressed down



Preparation for jumping

- Front foot as per normal in-line stance, back ankle is extended so that only the ball and toes are on the wire.



Posture

Posture is of great importance when working on the wire. Arching the lower back causes a core weakness and will inevitably lead to instability. Fig 1 shows an incorrect position where you can see a pronounced arch in the back.

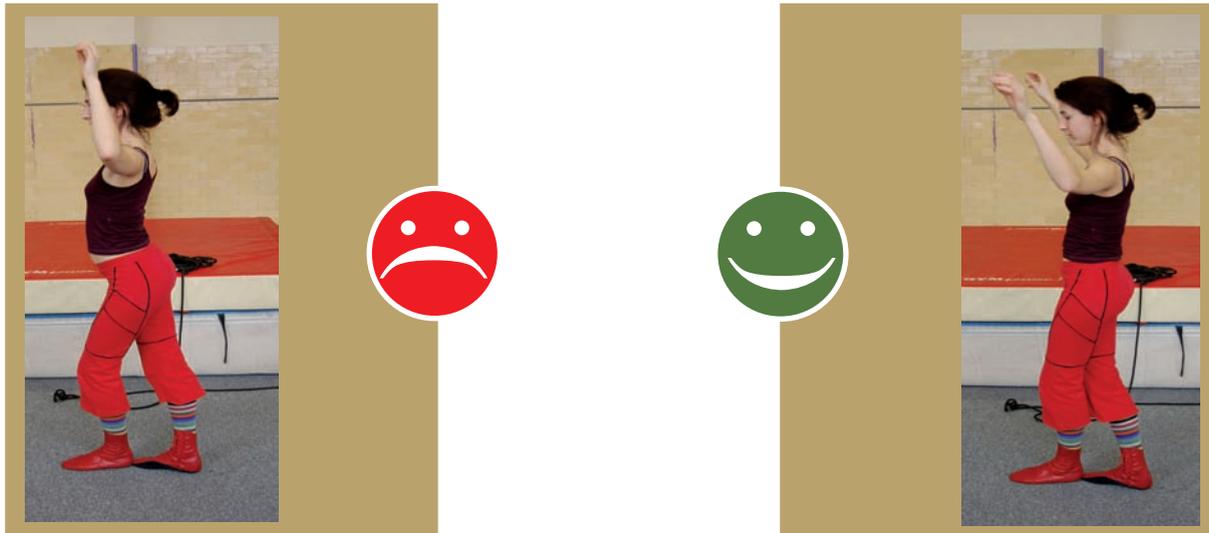


Fig 1

Fig 2

Fig 2 shows correct posture with the hips tilted backwards and the spine much straighter than fig 1. There are a number of ways to educate the body to this position, some of these are described below.

1. **Trapping the mouse:**

The student lies on his or her back with the arms placed out to the side. Another person, either student or teacher then places their hand underneath the natural arch in the students back. The student must try to ‘trap’ the hand by tilting the hips backwards.

Once this has been successfully achieved and understood then the exercise is repeated with the arms moving above the head. This is more difficult and is also dependent on the student’s range of movement in the shoulders. It is not necessary to have the arms completely flat to the floor.

2. **‘Lifting the log’**

From the position described above with the back straight and the hips tilted backwards, the student is lifted by the feet into a shoulder stand position. The position of the back and hips must be maintained all the way up and down

3. **‘Back to the wall’**

Now the student learns to stand and move the arms with correct posture. He or she stand with the back against the wall. A small piece of foam or a ‘t’ shirt is placed behind the lower back which must be kept in place while the student goes through number of movement of the arms. These can later be developed to include varying lifts and positions of the legs.

4. 'Passing the body'

This game involves 4 or 5 people. The one in the centre is the body and must maintain a straight body with the feet in the same place. It begins with the person directly behind taking the weight of the 'body' and leaning it backwards, the centre student is then passed around the circle. At any point the direction can be reversed or the body can be passed from back to front.

These are all games to ensure that the student is well prepared in the correct posture for walking the wire, but probably the most useful is a regular basic dance class.

2/ WALKING ON THE WIRE

To begin, all techniques should be practised on the floor. This can be done on a chalk line drawn on the floor or on a rope stretched out on the floor. When ready the first steps onto the wire are taken.

Once the basic in-line foot position is understood the student can begin to walk on the wire. There are 2 basic stages to this:

1. Walking by sliding the foot forward
2. Walking without sliding

The first technique is easier for beginners as the foot has little time without contact on the wire.

WALKING WITH SLIDE (FEET IN LINE)

- Start first step very close to the platform
- Fix the eyes on the platform ahead
- Take the chest forward to put the weight on the front leg
- Place the other leg, knee bent, immediately in front of the other foot, toe on the wire

- The front foot is placed on the wire just in front of the other foot with the wire running between the big toe and the other toes
- Then slide it forwards bringing the weight onto it as the foot flattens onto the wire.



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part2/ Basic Techniques on Tight Wire

- 1) The weight is placed on the foot close to the platform
- 2) The front foot is placed on the wire with only the ball of the foot touching, the weight is on the back foot.
- 3) The front foot is slid forward until the ankle is completely extended. At this point most of the weight is on the back foot.
- 4) The weight is transferred onto the front leg and the foot is placed down flat. Simultaneously the weight comes off the back foot and the ankle is extended so that only the ball of the foot is touching the wire.
- 5) The weight is shifted slightly forwards as the back foot is slid along the wire to arrive right behind the heel of the front foot.

Once the student is comfortable with this type of movement then a more normal walking pattern can be adopted with the feet in line.

Walking Backwards:

The technique for this is simply to reverse the above process for walking forwards. Obviously it is harder to do as the performer cannot see the wire. However the eyes should still remain fixed on the platform ahead. The wire is found with the feet.

Walking feet turned out

Walking feet turned out
(3rd Position)

- The wire is found from underneath
- The supporting leg remains slightly flexed



- 1) The instep of the right foot is placed on the wire in front (this can be slid to begin with)
- 2) The weight is transferred to the right leg. The leg remains slightly flexed as the left foot is swung beneath the wire to:
- 3) Repeated process with left foot, the leg is extended as before the weight is transferred onto it
- 4) The weight is now over the flexed left leg

Feet Position for walking in 3rd position



The weight is always on the front foot (top picture corresponds to bottom picture).

Arm Position:

The use of the arms is most important to balance and as seen in the section on biomechanics, affects not only the position of the centre of mass but can also rotate the body. The arm action most preferred is to keep the elbows still as much as possible at shoulder height and move the lower arms to maintain balance.

Lunge, showing correct arm positioning

Figs 3 – 6 show these positions which are the same for tight wire and slack rope.

**3/ PREPARATION FOR RUNNING**

Running is done with the feet turned out in 3rd position. So it necessary first to learn to walk with the feet turned out (see above for foot position). In order to control the bounce of the wire the student should learn to walk 'charging' the wire. For this, the supporting leg is slightly bent and the weight is pushed down into the wire. The foot should find the wire from underneath.

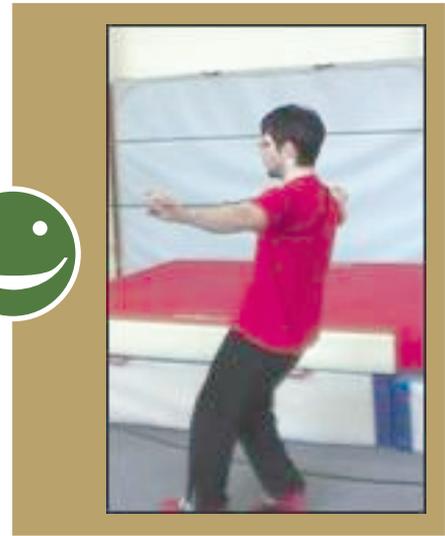
Walking – "Charging" the wire

- The support leg remains bent to take up the bounce of the wire
- The swinging leg goes under the wire and finds it from below



As explained earlier in the biomechanics section , the centre of mass must be in front of the feet to create a position of imbalance. This is done by leaning forwards. To help understand this, the teacher can pull the students shoulders forwards using a rope

part2/ Basic Techniques on Tight Wire



Note that the rope can be used for walking backwards as well. On this occasion it offers resistance to the performer so he or she must press against it with the correct posture.

4/ TURNING ON THE WIRE

PREPARING FOR TURNS

There are a number of different ways of turning on the wire, each of which should be explored and correctly performed on the floor first. These turns can be introduced once the performer is comfortable walking forwards and backwards on the wire. The most part to understand is the placing of the feet.

Basic Forward Half Turn:

This turn takes the student from walking forwards to walking backwards. The skill, with the foot pattern is shown below:

Forwards turn

- Right foot is placed almost parallel with turned out back foot
- As the body turns the left foot is placed behind the right and the right foot turned into position



Backwards Turn

The backwards turn is technically easier as the feet are turning out, however the balance can be more difficult as the body is travelling backwards.

part2/ Basic Techniques on Tight Wire



Half turn on the wire

- Right foot is laced behind and turned out
- As the body turns backwards the right foot is turned further and the left leg swings across the body
- Continue walking forward



Forwards static turn

This turn is similar to the normal forwards turn but the performer turns on both feet and returns from where he came. It is the first step to learning the full turn.

Forward static turn

- Step onto left foot with foot turned parallel to back foot as per previous forward turn
- Pivot on both feet to turn 180°
- Step back the way you came



Full turn on the wire:

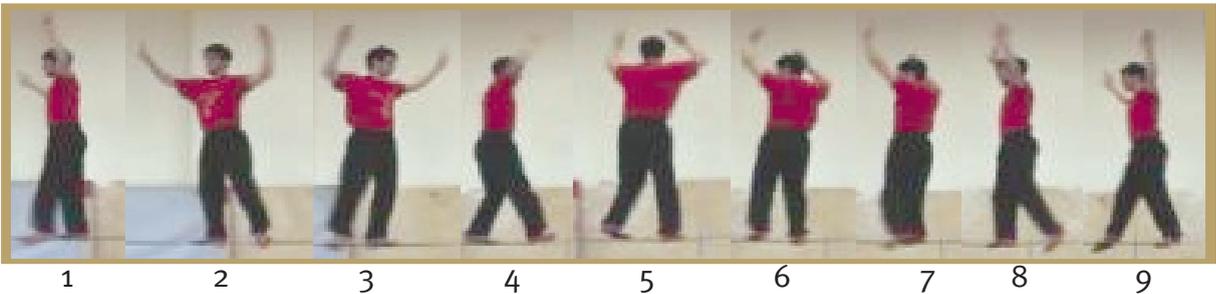
There are two basic ways to perform a full turn on the wire. The forward version entails the above static forward turn followed by an immediate backward turn. The backwards version requires a backwards half turn followed by a forward stepping turn (Shown above as the first forward turn). Once again these should be stepped out on the floor, on a line or rope before being taken to the wire. Maintaining correct posture is very important during these more advanced turns.

□ Full turn forwards:



Figs 1 – 4 show the forwards static turn, 5-9 shows the backwards turn

□ Full turn backwards



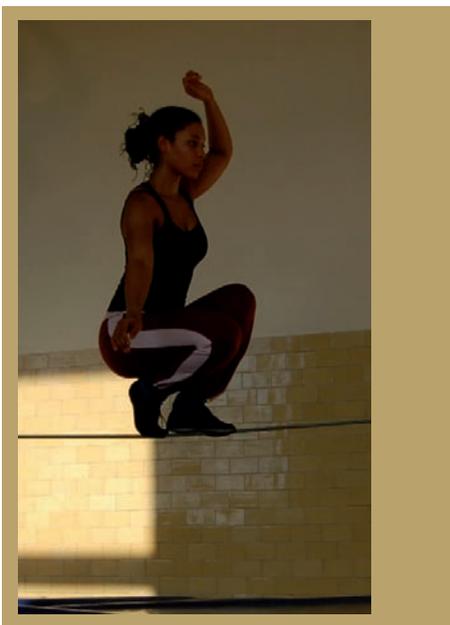
Figs 1-4 show the backward half turn, 5 – 9 the forwards walking turn."

□ 5/ EXPLORING DIFFERENT LEVELS

□ Sitting and lying down:

To add interest to a performance on the wire it is good to explore different levels. In preliminary exercises the student may practise squatting down and standing up. This is good training for balance but also for getting used to going down onto the wire in sit and lie.

Squat, front foot flat Squat on toes



part2/ Basic Techniques on Tight Wire

To begin with one leg must be taken off the wire and dropped to the side, the student then squats down on one leg and sits back onto the wire.

Sitting onto the wire

- Right leg is taken off the wire and dropped to side
- Squat down on left leg
- Sit onto wire
- Extend left leg
- Extend right leg



Lying on the wire

- From sitting as above, slowly lie back
- Use right leg for balance
- In position cross right leg over left and use arms for balance



Alternative lying positions



Lunge and splits:

The lunge position can be used as a position on its own or as a preliminary to descending into splits. Two different lunge positions are shown below, forwards and sideways. You need to master squatting down before attempting these. The side lunge can be performed either side, the pictures show a transfer from right to left. Note that the body does not rise during this transfer.



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part2/ Basic Techniques on Tight Wire

- 1) From squat, the left begins to extend, the body must be kept upright
- 2) The left leg is fully extended and the lunge position reached
- 3) The weight is transferred across both legs without raising the height of the body
- 4) The left leg lunge is reached by extending the right leg

This can also be used as a means of travelling along the wire, by repeating this action a number of times.

Side split



Forward lunge:

- This is achieved by placing one leg behind the other (in this case the right leg). The foot is then slowly slid backwards along the wire.
- The body must be kept upright
- The hips must be kept square to maintain balance
- The front foot is turned out



Splits:

As mentioned above the splits can be moved into from the forward lunge, this is achieved by pushing backwards with the left foot from the above position extending the left leg into splits.

Splits from lunge

- Extend forward leg
- Slide back leg
- Feet turned out
- Body remains upright



part2/ Basic Techniques on Tight Wire



The splits can also be reached by sliding the front leg forwards or by sliding both at the same time, it is really a matter of personal preference. To get out of the position it is easiest to bend the front leg and then bring the back leg forward under the wire to sit, as below.

Coming out of splits

- Bend the front leg hooking it under the wire
- Release the back leg lean back to sit



6/ PREPARING FOR AND LEARNING JUMPS

Once again it is best to go through all the technical aspects of jumping on the wire whilst practising on the floor. After this a low wire should be used with safety mats up to a level which allows the student to step off comfortably without hindering the flexion of the wire. The normal take-off position for the feet in a jump is as shown at the beginning of this chapter, but for convenience is shown again below.



Foot position for jumping



Landing position from jump

From this position the student can flex the legs and make a small jump, landing in '5th turned out position as below.

Once this is consistent the student can progress to 'changement', where the position of the feet is changed during the jump. For this skill the student begins in turned out position. When this has become consistent then it can be repeated in a series of jumps.

part2/ Basic Techniques on Tight Wire

Timing of the legs and the wire in the changement



1. At the beginning the weight is on both feet
2. As the legs bend into plie, the wire goes down
3. As the wire returns the legs are extended
4. When the wire is fully up the feet are extended and the weight is going upwards

During landing the feet are extended as they reach the wire, as the weight comes down and the wire bends the legs are bent as in (2) to absorb the landing. After this they are extended as in (1). Throughout the whole jump the back must remain straight as per classical ballet.

Basic Jump



Series of changement



Learning to jump higher

To gain the confidence and ability to jump high from the wire requires a slow development over time. To help with this the teacher can give the student something to jump over. Obviously this needs to be something which is easily removable and will impede the student if he or she catches it. A stick can be held in front. The height of this can easily be altered and it can be moved away during the jump if necessary.



There are numerous other steps, jumps etc that can be done on the wire. If it can be done on a line on the floor then it is possible to do it on a wire. However, the basic movements have been covered here.

1/ Equipment specifications and safety

BASIC EQUIPMENT GUIDELINES

Specification of rope:

Either rope or wire can be used, normally rope is static climbing rope 10 – 11mm

A – Frames:

A – Frames are usually around 2m in height, held off at the top with a single rope or wire. If the rope is very slack then it might become necessary to use two fixings at angles to stop the frame from moving sideways. When the rope is taut, the frames should be upright. It is also possible to fix the rope from wall or ceiling mountings. (See pictures)

Degree of slack:

This is to personal taste but normally the degree of slack is such that when the performer stands in the middle of the rope the top of the A – frames is at about shoulder to head height.

Height:

When beginning it is recommended that the bottom part of the rope when under tension is about 10 cm from the mats. After this it is a matter of personal taste.

SAFETY

Matting:

Matting for slack rope should be wider than for tight wire to take account of the movement of the rope and swing. Safety mats should always be used when learning skills on the slack rope

Human traffic:

As for tight wire, it is important to control the passing of other people especially when skills are being learned with a swing

Levels of skill:

Progression should be logical and consistent. Each stage should be mastered and practised until consistent before moving on.

Lunges:

Lunges can be used for learning skills, see notes in tight wire section

Clothing:

Students should not wear clothing that is too loose. Shoes should be similar to those worn for tight wire but it is possible to work on the rope with only socks

part3/ Basic techniques on Slack Rope



These pictures show ropes set at around a degree of slack so that the shoulders are in line with the top of the frames



Possible fixings at top of frames ▲



▲ A-frame without tension



Alternative method of fixing rope, from ceiling. Also note that the rope is much slacker

part3/ Basic techniques on Slack Rope

2/ BASIC TECHNIQUES ON SLACK ROPE

FIRST STEPS – MOUNTING THE ROPE

To begin with it is best to fix the rope at a height where the lowest part is approximately 10cm from the ground. First attempts at balance are made by stepping onto the rope and balancing with one foot, in this way both the arms and the free leg can be used to balance. Unlike the tight wire balance on the slack rope is maintained by using the hips, but to begin use the arms as you would for tight wire. Beginners can use two sticks to help themselves balance

Stepping on

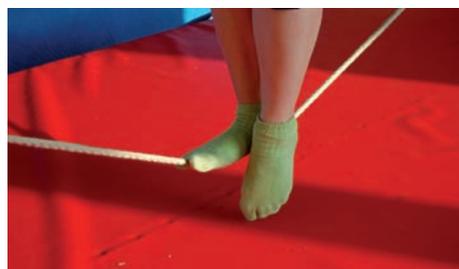
- The support foot on the rope should be in line with the foot on the floor
- Put the weight slowly onto the support foot and extend
- Use the arms and the free leg to balance
- Get used to balancing on each leg



The various foot positions for the slack rope are shown below:

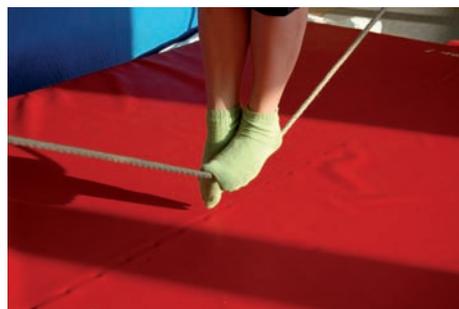
Right foot, supporting left leg free

- Rope runs between big toe and the other toes then along the centre of the foot



Left leg supporting right leg free

- As above



Both feet in line

- As both feet are on the rope it is not possible to balance with the free leg.
- Use the hips to balance with help from the arms to begin



part3/ Basic Techniques on Slack Rope

Both feet turned out (5th position)

- Rope runs under the arch of the feet
- Ankles are slightly extended

**Standing sideways**

- The balance is taken on the balls of the feet
- The student should press the toes down to extend the ankles slightly



The posture for slack rope is the same as tight wire. The back should be kept straight and the hips turned under. The difference is in the use of the arms, the slack rope performer should get used to balancing without the arms and using the hips by putting pressure on the rope through each foot.

It is useful to practice all these positions with the arms in different positions. Also practice different head positions, eyes open, eyes closed. This series of exercises can be made into a basic complex to be done each session at the beginning. Some of the positions are shown in the pictures below, the whole complex is shown on the DVD.

**WALKING**

As with the tight wire it is easier to start by sliding the feet along the rope. To begin with the student can traverse the rope with one leg leading all the time. The forward foot slides along the rope and the back foot slides in behind it. This can be followed by stepping and sliding the foot along the rope, then sliding the back foot up to the front then stepping again, as shown below.

Sitting on the rope

- Position with one third of rope behind
- Start front foot forwards, back foot turned out
- Squat down, back straight
- Transfer weight to seat
- To stand reverse the process

**Lying on the rope**

To get to lying on the rope you have to sit first, as above. When the weight is on the seat you can lean back. The rope goes as close to the spine as possible, use one leg and the arms to maintain balance.

Lying on the rope

- Start from sit
- Use the free leg to help balance
- When the balance is good bring the legs together

**Other skills from lying on the rope****Hanging under**

- The rope is hooked underneath the left leg and over the foot
- The right leg is placed on top
- Grasp the rope above the head
- Rotate slowly and straighten the arms to hang



Circling the rope



1. From sitting on the rope
2. Slide down until the rope is just above the hips
3. Turn sideways extending the left leg over the rope
4. Hook the rope under the left knee and over the foot
5. Release left hand and swing the right leg downwards
6. Continue to use the right leg to give momentum to the circle
7. As the body rises above the rope the performer can return to sit or
8. Continue into another circle

CROUCHING AND KNEELING SIDWAYS

From standing sideways bend the knees keeping the back straight. The rope should be just below the balls of the feet, as in the picture at the start of this chapter.



TURNING ON THE ROPE

As on the wire there are different ways of turning on the rope. The easiest turns are the static ones. Normally the backwards turn is done first as this is probably the easiest.

Back turn

- The back foot is placed on the wire turned out
- The weight is evenly distributed
- As the body turns the feet turn
- Final foot position is the opposite of the start position

**Forward turn**

- Step onto the front leg with the foot turned into the direction of turn
- As the body turns the weight is on both feet
- The feet turn as the body turns
- On completion of the turn the weight is on the front foot

**SWINGING**

The lateral swing of the rope is begun by pushing through the leg with one hip and then the other. Once the swing has increased then both feet can be used to increase it further or maintain a level. To stop the swing the legs push in opposition.

