6.2. NOCKING THE ARROW

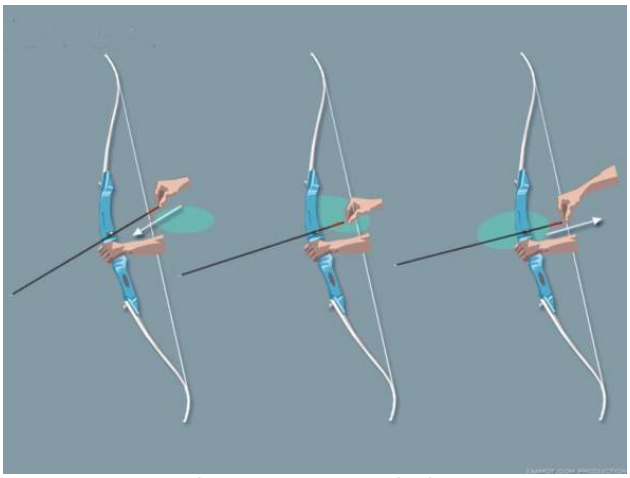
6.2.1. Complementary Knowledge

Type:
Preliminary action

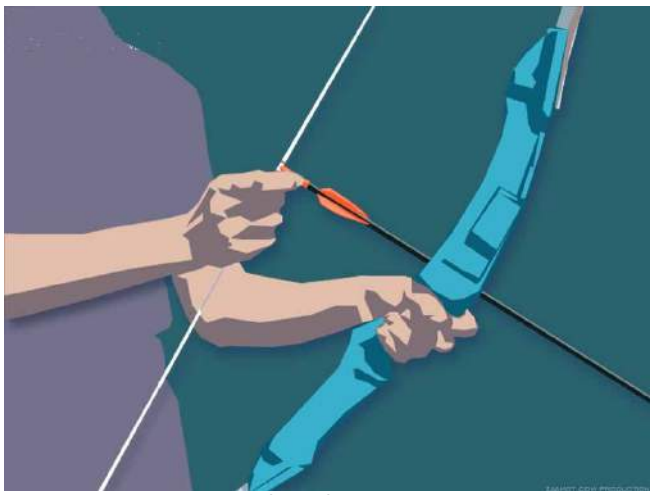
Objective:
Identical placement of the arrow with respect to the nocking point of the string.
The action must be performed in a safe manner to protect the archer, other archers, and equipment.

Form:
Take hold of the arrow by the nock, place the arrow on the rest, correctly turn the arrow to line up the nock, and nock it onto the string.

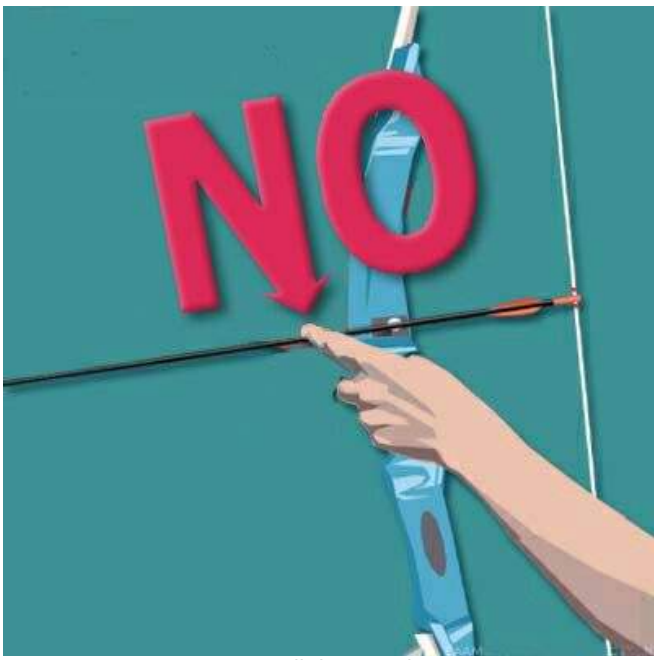
How to draw an arrow out of the quiver.



Loading an arrow onto the bow.



Nocking the arrow.



Finger pressure will damage the arrow rest.

Rationale:
Taking hold of the arrow in front of the vanes makes it more difficult to nock, and the fletching could be damaged if the hand slips. Strong vertical pressure can damage the arrow rest so care must be taken while nocking an arrow.

6.2.2. Exercises

No exercises are suggested for teaching how to nock an arrow.

6.3. STRING HAND AND GRIP

6.3.1. Complementary Knowledge

For the string hand two stages are to be considered during the shooting sequence:

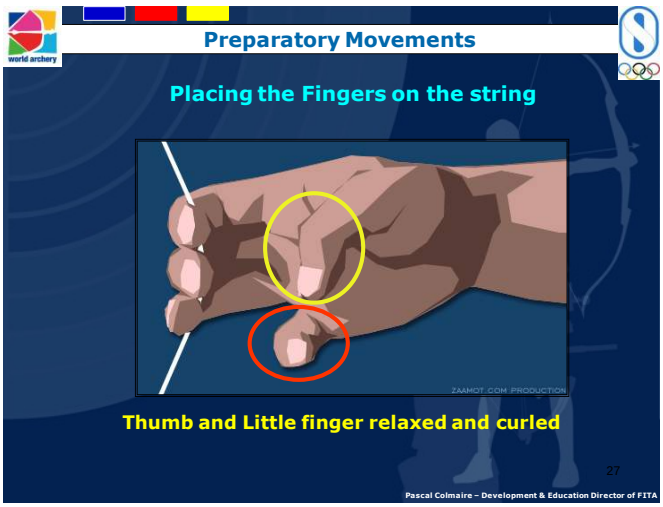
- preliminary positioning before raising the bow;
- during the force production period and the release.

The following will mainly cover the first stage. See chapters on "Pre-Draw", "Draw" and "Draw Extension" for further information.

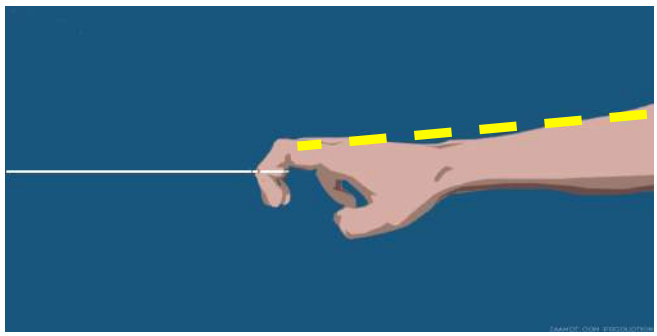
Type:
Preliminary action.

Objectives:
Consistent finger positioning on the string in order to produce the same distribution of effort on the string, hence on each bow limb, shot after shot.

Form:
The fingers – usually the forefinger, the middle finger and the ring finger - hook the string in the middle segment of the finger or in the knuckle furthest from the hand. The fingers that are not used – usually the thumb and the little finger - are relaxed.



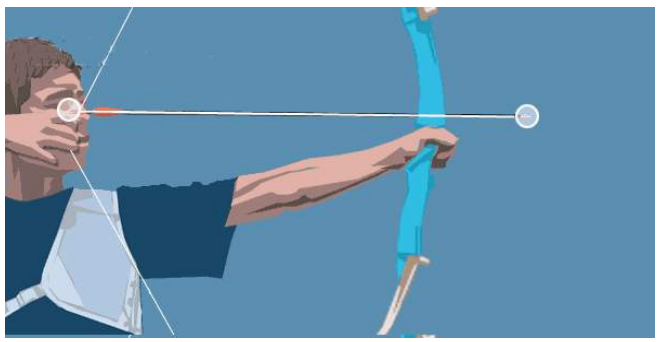
The palm and wrist of the hand are relaxed. The back of the hand is flat and aligned with the back of the forearm.



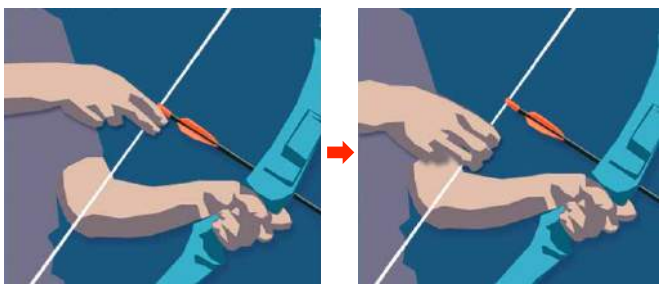
The three fingers divide the workload, each taking its share of the string pressure. At full draw, the back of the hand remains as vertical as possible, not curled-up, with the wrist as straight as possible. The interior of the forearm remains relatively relaxed. In effect, the hand is in the same axis, or shooting plane, as the forearm and arrow.

The location of the string fingers on the string depends on the aiming method used by the novice (and the shooting distance, if relevant).

Using the Shaft Aiming/Straight Line method for adults and teenagers with a bare Recurve bow:



Three fingers beneath the arrow. The space between the nock and the top of the forefinger is about two fingers, depending on facial bone structure and size of string fingers.



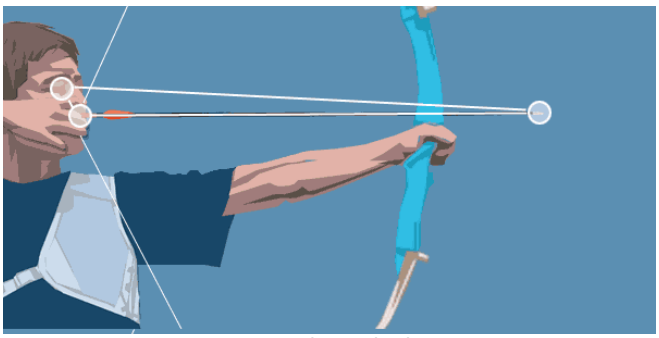
String grip for first sessions: straight line or shaft aiming method.

In contrast to the triangular and/or quadrilateral method (see below) this kind of basic grip eliminates the:

- Need to repeat facial marks at full draw;
- Need to align the string at full draw;
- Worry about producing vertical finger pressure on the arrow.

It also simplifies aiming and provides a natural easy alignment of the string forearm with the arrow.

Using the Point Aiming/Triangle method, for kids with a bare bow:

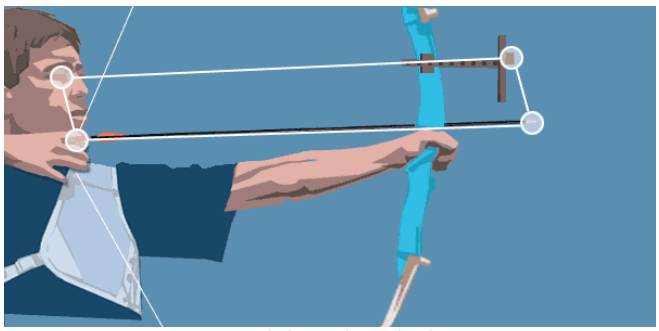


Triangle method.

Three fingers beneath the arrow, with the top of the forefinger just below the nock. Sometimes a little space (less than 2 fingers) is needed.

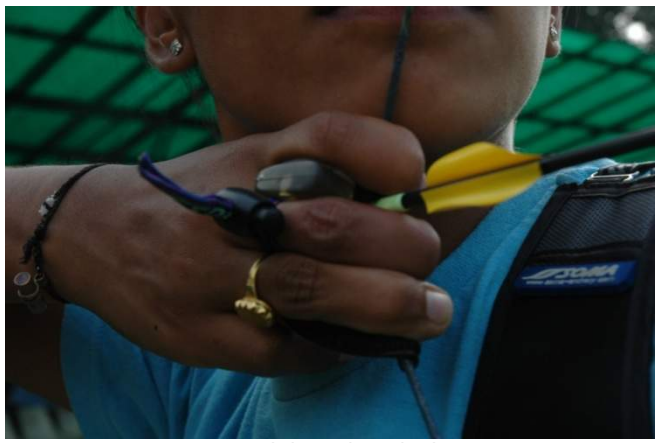
Triangle method.

Using a Sight/Quadrilateral method:

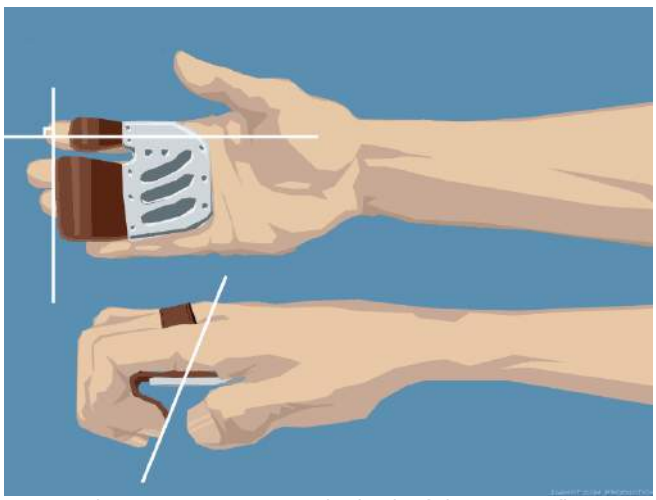


Quadrilateral method.

The forefinger is just above the nock, the two other fingers are 2 or 3 mm below the nock.



Quadrilateral method.



With a proper string grip the back of the wrist is flat.

Rationale:

The more relaxed the novice is, the better they can learn, and the less likely they are to twist the string. The "depth" of this string grip allows the muscles of the string hand, arm and forearm to be relatively relaxed, leading to the string releasing cleanly from the fingers.

6.3.2. Exercises

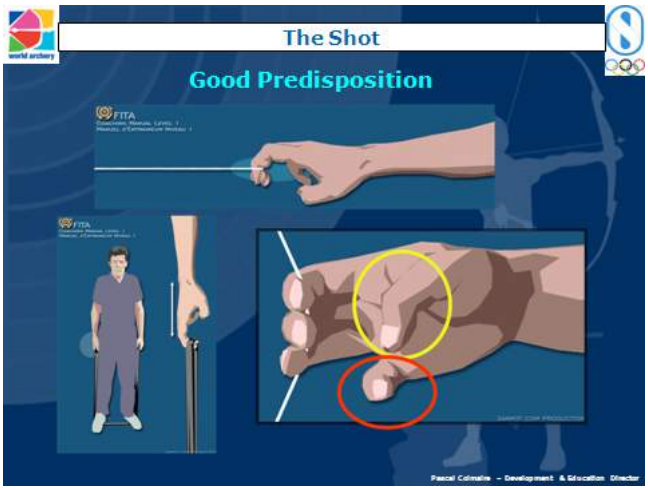
String Hand and Wrist Pre-setting or Predisposition - Exercise

Objective:
Correctly grip the string.

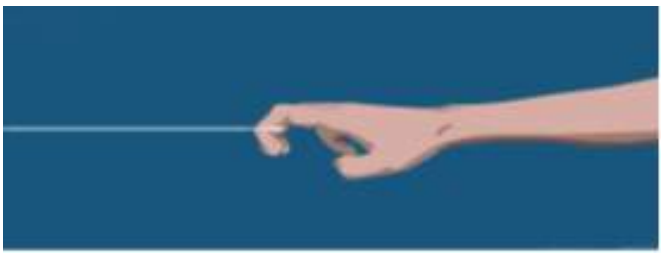
Situation:
Ideally standing in front of and looking into a large mirror.

Equipment:
- Large mirror;
- Elastic band;
- A small loop of cord to be attached to the elastic band.

Instructions:
The novice places one end of an elastic band under the string foot, and grips the other end in the string fingers.



The novice observes in the mirror (or by looking directly at the hand) that:
- The joints between the fingers and back hand are flat (no knuckles pointed up);
- The back of the string hand is aligned with the forearm;
- The string is in the end joint of the fingers or "deeper" (not more towards the tips);
- The unused fingers (usually thumb and the little one) are relaxed.



String Hand Pre-setting with Relaxed Wrist and Flat Knuckles - Exercise

Objective:
Correct grip of the string.

Situation:
In pairs.

Equipment:
Usual archery equipment.

Instructions:
The novice holds the bow by the string like they would hold a bucket by the handle.

Then he/she observes by looking directly at the string hand that:
- The joints between the fingers and back of hand are flat (no knuckles pointed up);
- The back of the string hand is aligned with the forearm;
- The string is in the end joint of the fingers or "deeper" (not more towards the tips);
- The unused fingers (usually thumb and the little one) are relaxed.

1. The assistant holds the novice's forearm with one hand just above the string.

2. The assistant's other hand gently pushes the bow a few centimetres down and away.

3. The assistant moves the bow and novice's forearm upward, almost to the level of the horizontal plane. The novice strives to keep the form of the grip hand and wrist while observing them.

From that position, the assistant alternately:

- pushes the bow a short distance away from the archer, then relaxes;
- pulls the string forearm back a little, with some physical participation by the archer.

The shape of the archer's string hand/wrist should always remain the same.

6.4. BOW HAND AND ELBOW

6.4.1 Complementary Knowledge:

Similar to the string hand, two stages are to be considered during the shooting sequence with respect to the bow hand and elbow:

- preliminary positioning before raising the bow;
- during the force production period and the release.

The following will mainly cover the first stage. See chapters on "Pre-Draw", "Draw" and "Draw Extension" for further information.

Type:
Preliminary action.

Objectives:

- Consistent and stable bow hand contact with the bow grip;
- Same bow hand pressure on the entire bow:
  - Directly on the riser;
  - Indirectly on the limbs;
- Sufficient string clearance during the shot.

Form:
Fingers are relaxed and naturally curled; they do not hold or squeeze the bow.

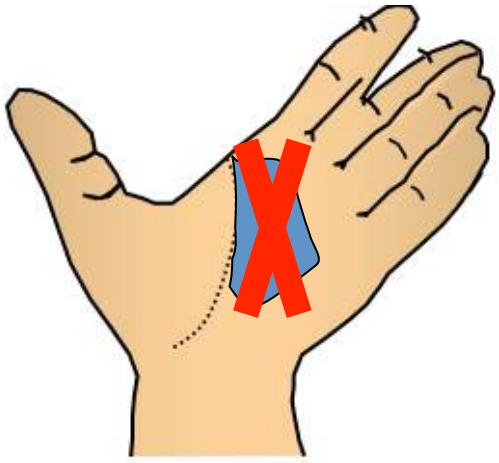
Relaxed fingers.

The wrist is relaxed and therefore bends to match the angle of the bow grip. The "V" between forefinger and thumb is centred on the forearm axis.

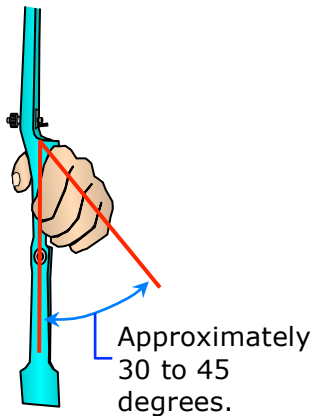
A well aligned bow hand.

The bow pushes on the centre of this "V" and the life line axis. The main pressure zone is about 1 cm to 2.5 cm lower than the "V" point formed by the thumb and the forefinger.

The part of the palm past the life line should not press on the centre of the grip, to ensure good string clearance at the bow forearm.

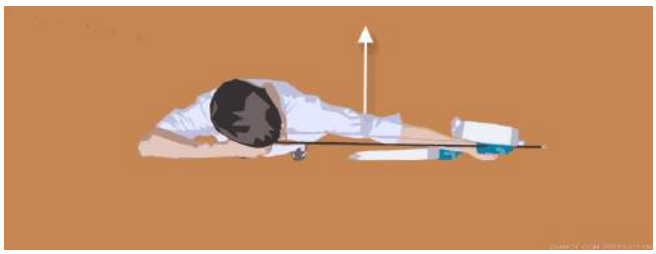


Since this part of the hand is away from the grip, the row of knuckles on the back of the bow hand is canted from 30 up to 45 degrees with the vertical.



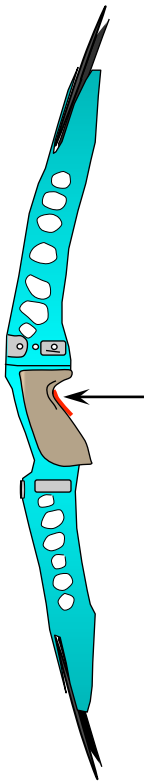
The bow arm is straight with the elbow fixed, not bent or locked. The hollow of the elbow

should be kept as close as possible to the vertical and face the arrow to get proper string clearance.



Bow elbow pointed out = good string clearance.

The main pressure zone on the bow grip should be close to the area shown on the following illustration:



Rationale:
This grip position allows the bow hand to be completely relaxed while still providing a stable and consistent placement in the bow. The use of a sling is recommended during the early sessions. Generally speaking, the more relaxed the novice is, the better their overall perception of sensory input. In the case of the bow hand, it is important to be aware of and eliminate any pressure on the bow that could generate torque on the riser. Also, getting the beginner used to a sling and letting the bow simply "jump" into the sling early on, while it is one more point to concentrate on, is one action less to change or learn in the future.

6.4.2. Exercises

Bow Hand – Exercise 1

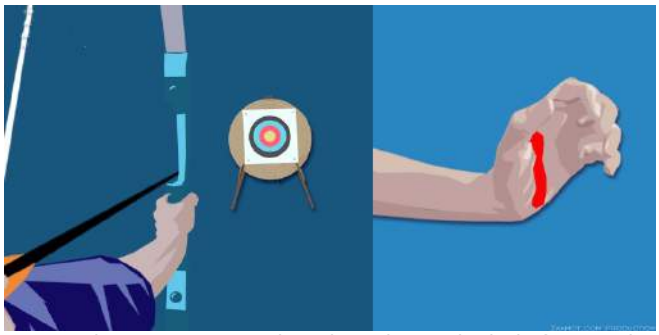
Objective:
To discover a bow hand position that is easy to replicate; solid, but not tiring, relaxed, and allowing an efficient pursuit of the shooting process, including good string clearance.

Situation:
Shooting situation.

Equipment:
Bow.

Instructions:
Have the novice try different bow hand positions, and notice:

- The obstructed string displacement when the palm of the bow hand past the life line presses against the bow grip;



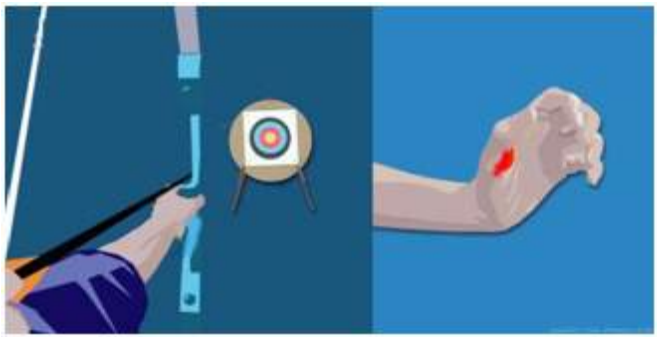
String clearance is poor when the palm on the little finger side presses against the bow grip.

- Any discomfort and the tiring nature of the position when the string is pulled slightly with the bow grip pressing against the base of the thumb.

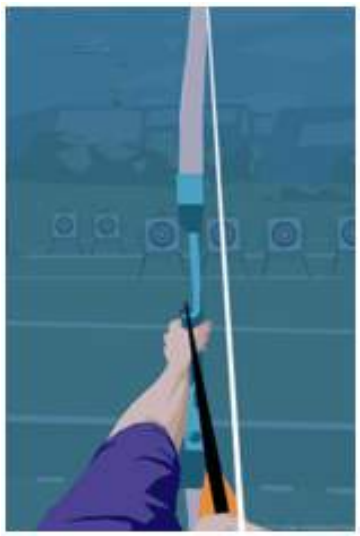
An unstable and tiring grip occurs when pressing the thumb against the bow grip.

Several beginners adopt the unavailing bow hand position shown in the previous illustration

to avoid their forearm getting hit by the string. Since the pressure point on the grip is moved to the left (for a right-handed archer), it generates a bow torque during the propelling process that deviates the bow string toward the bow forearm; hence no gain, but still pain!
A recommended position is shown in the illustrations entitled "A good bow hand position"; this provides a support zone between the lifeline and the base of the thumb.



A good bow hand position.



A good bow hand position.

String clearance is better when the palm on the little finger side is not in contact with the side of the bow grip.

A good bow hand position.

Bow Hand – Exercise 2

Objective:
To discover a stable bow hand position and allowing an efficient pursuit of the shooting process, this includes good string clearance.

Situation:
Simulation.

Equipment:
A piece of string or a bow.

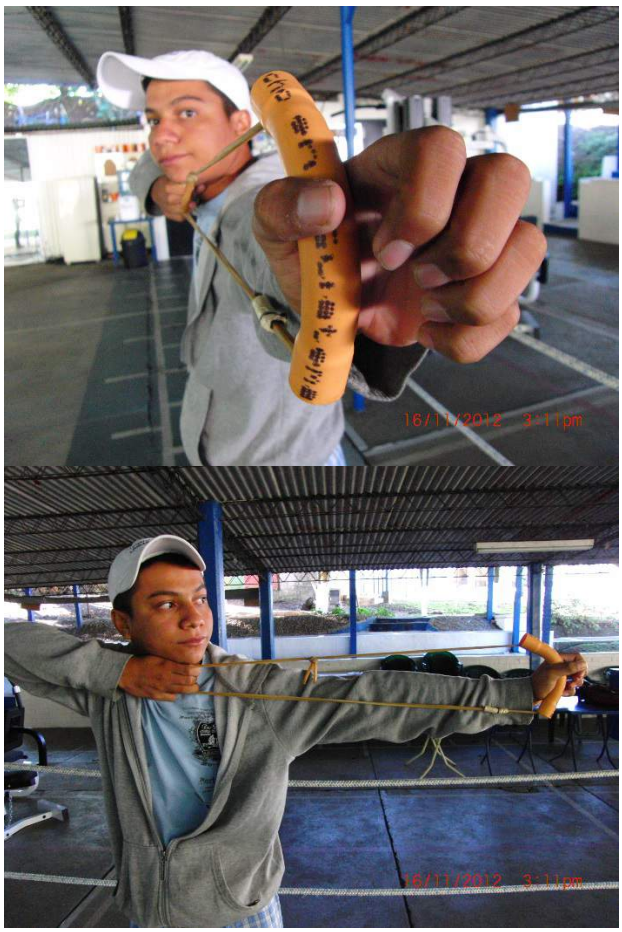
Instructions:
To discover the contact zone on the grip hand, ask the novices to pull a rope or rubber tube as shown in the next illustration:

The coach should check if the rope is pressing on the proper place on the bow hand. If necessary, correct the location of the rope or rubber tube.
The novice should feel:

- The stable alignment of the bow hand;
- Where the pressure zone is located in the hand.

Then ask the novice to use a bow back to front, with the bow hand holding the string and the string hand holding the bow.

If the string is properly placed, the novice can keep the bow hand relaxed and the bowstring does not roll out from the bow hand.
Another simple and efficient teaching aid is shown below:



At this point, ask the novices to demonstrate a proper bow hand position with their bow
Have them shoot with their eyes closed to feel the correct bow hand position.