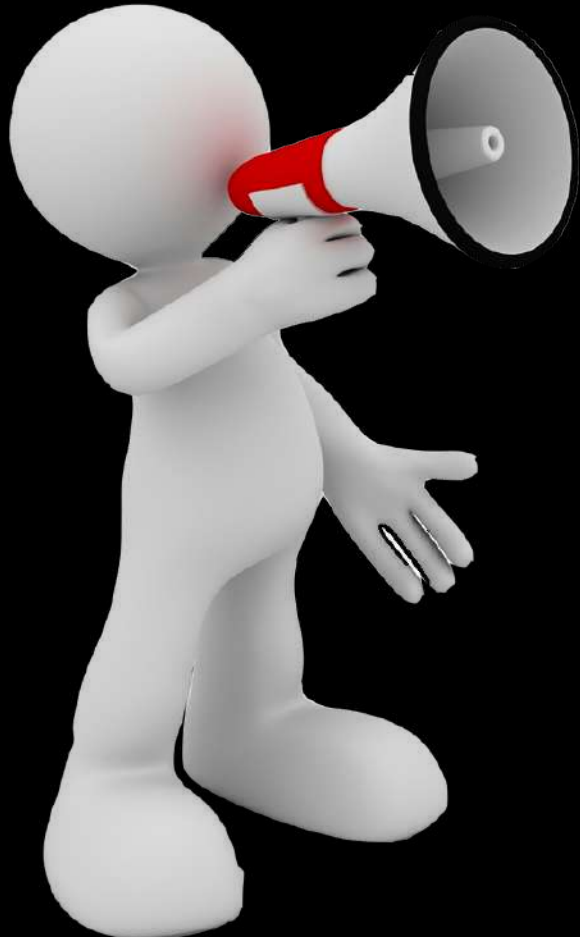


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ADVANCED THEORETICAL ELEMENTS IN THE TECHNIQUE OF CLAY TARGET SHOOTING

11/25/20

THE CALL



- Why it is so important
- Differences between Trap and Skeet
- Which elements can affect the call
- How it is performed:
 - Importance of diaphragmatic breathing in the call

THE CALL ACOUSTIC RELEASE

- It is the connection between the throwing machine and the shooter;
- Electro-mechanical release;
- Sound filter preventing unintentional target release due to the wind or other external sounds;
- It is set at a minimum level beyond which the target is not released.



THE CALL

WHY IT IS SO IMPORTANT

- It completes the preparatory phase
- It gives the start to the shooting action
- In the trap it is closely related to the shooting timing
- It affects the technical gesture
- It can cause a late exit of the target
- It is connected to the shooter's readiness
- It allows the shooter to hold a stable waiting position



THE CALL TRAP AND SKEET DIFFERENCES



In the Trap the voice must be short:

- With open mouth: vowel A
- With mouth closed: vowel O



In the Skeet, the call is generally longer to reduce the waiting time of the target's exit delay, which varies from 0 to 3 seconds



In both disciplines it must be determined in order to both motivate the shooter and allow the microphone to pick up the sound in a clear and immediate way

THE CALL

GENERAL PRONCIPLES OF BREATHING

A good breathing can be divided into 3 sections, from the bottom to the top:

- Diaphragmatic Breathing: this is the lowest section and it is the one where most air is taken in. The diaphragm is located in this area, which is the most important organ in the respiratory act;
- Thoracic Breathing: this is the intermediate section in terms of position and function, in which a little less air is taken in compared to the lower section;
- Clavicular breathing: this is the highest section and it is the one with rather less space, where the 'details' of the breath are managed. It is filled last and emptied first.

THE CALL DIAPHRAMATIC BREATHING

In order to perform a complete respiration, which brings the greatest benefits, one cannot do without diaphragmatic breathing, which every person can use to fill the various sections described.

In a proper diaphragmatic breathing, the stomach must be partially inflated so that the diaphragm is pushed down and a large amount of air can be taken in.

The shooter can channel the amount of air needed to emit the call sound through the correct use of the diaphragm.

The benefits you get with diaphragmatic breathing are:

- Voice output control;
- Increased posture stability when calling the target;
- Increased ability to stay still until the target is perceived;
- Improved management of stressful situations;
- Improved oxygenation of blood and brain.

THE CALL DIAPHRAMATIC BREATHING- BENEFITS

INITIAL MOVEMENT TO THE TARGET

- The initial movement of the barrels towards the target is the key moment for the success of the whole shooting technique.
- Fundamental elements for a proper initial movement:
 - Right barrels position
 - Visual Stability and Sport Readiness
 - Timing on the target

INITIAL MOVEMENT FUNDAMENTAL ASPECTS

- When the target is released, the barrels must be totally still until the end of the call;
- It must take place after having correctly read the initial trajectory of the target;
- You must be ready to break the target even before calling (readiness);
- Always separate actions: call, read, copy.



INITIAL MOVEMENT READINESS¹¹



- Sport readiness refers to the body's ability to match the requirements necessary for a particular sport or activity
- It is trainable and it is fundamental in the competition to have the clarity to decide the exact moment when to start the technical gesture.
- It is related to:
 - Perceptive ability;
 - Emotional state;
 - Functional state of the athlete.

TARGET PERCEPTION

THE VISUAL SYSTEM

DIFFERENCES BETWEEN SIGHT AND VISION

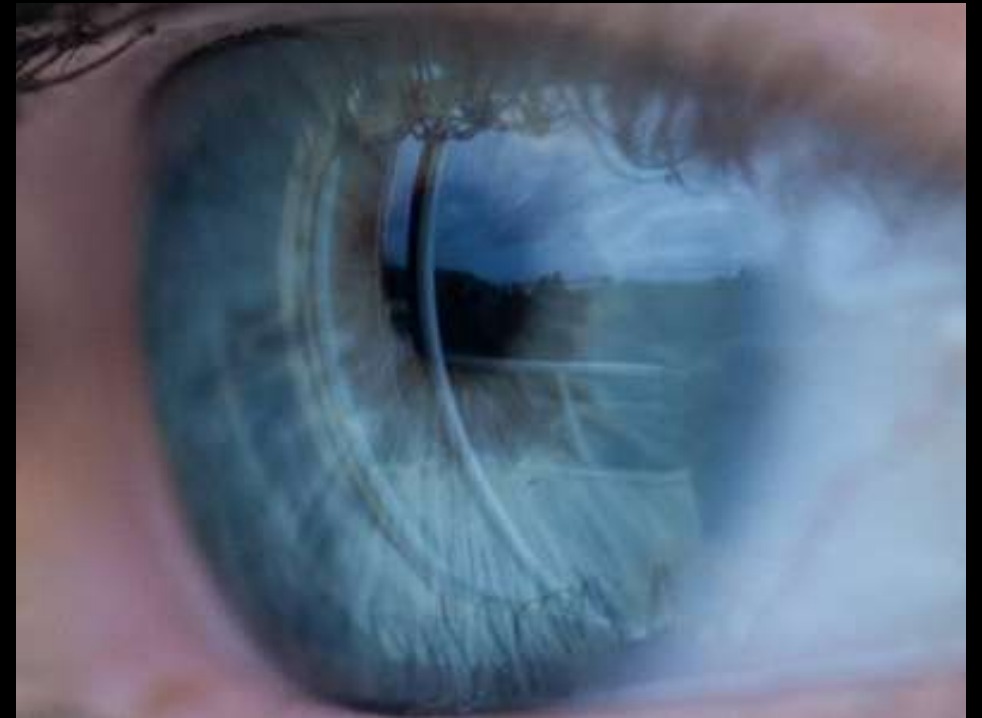
Sight is an innate sense, it is the ability to recognise a light stimulus and receive information from it.



Vision is a set of skills that, through a synergic and coordinated interaction of the two eyes, allow us to learn information from the surrounding environment.

TARGET PERCEPTION THE VISUAL SYSTEM

- The technical gesture must be carried out with the optimal execution, organised in the shortest possible time and with the minimum mental and physical effort;
- The visual system, therefore, delivers the first message to the structures responsible for balance and posture and closely operates with the vestibular system and the somatosensory system.



TARGET PERCEPTION THE VISUAL SYSTEM



Active Vision:

- State of activation of the sensorial system characterized by a high visual and proprioceptive attention;
- Every perceptive detail of the person, the environment and the main target is processed and stored generating a high awareness of the gesture and reduced automation times.

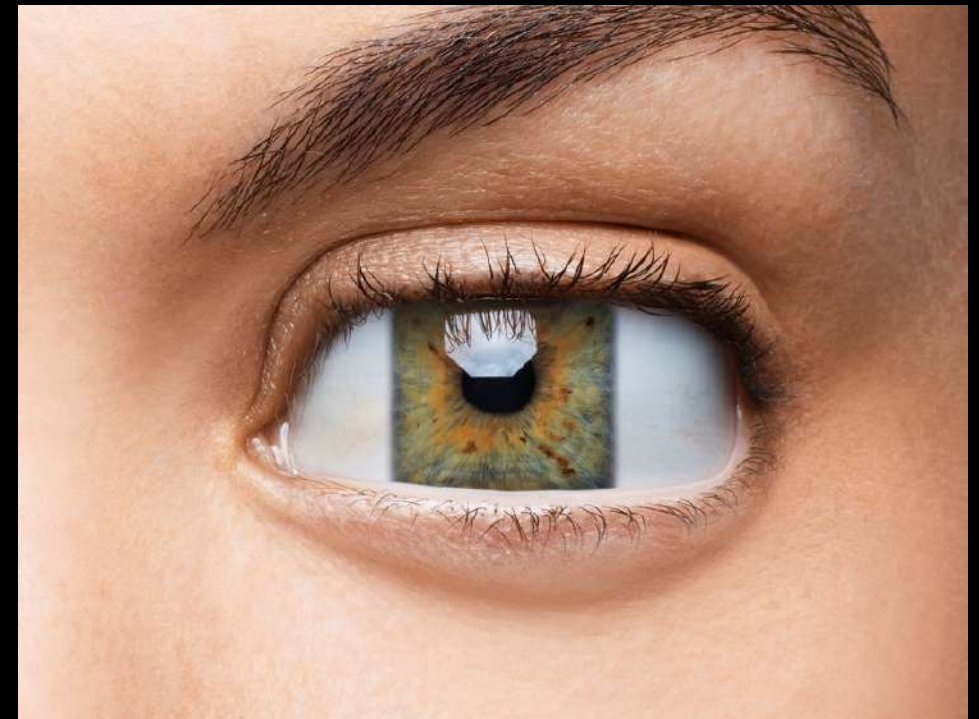
TARGET PERCEPTION

THE VISUAL SYSTEM – TECHNICAL EYE

The most performing eye in the management of the fixation is the dominant eye, which today is defined as the technical eye.

Its features include:

- Prevalent management of central vision
- Speed in taking fixation on moving objects
- Higher quality of the perception of colours



TARGET PERCEPTION

THE VISUAL SYSTEM – TACTICAL EYE

Features of the contralateral eye, or tactical eye, are:

- Prevalent management of vision, perception and peripheral awareness
- High kinetic discrimination power (where the object is positioned and how much it moves in the visual field)
- Main sensory and directional centre of the kinesthesia

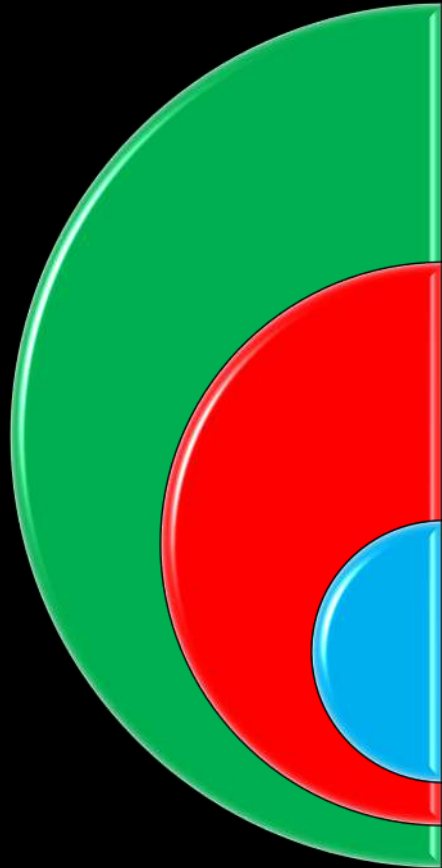


INITIAL MOVEMENT

How should it be done?

- Use of peripheral attention in the Trap and Skeet;
- Synchronous shotgun-body movement;
- Trajectory reading: central or peripheral vision

INITIAL MOVEMENT TRAP



It must be separated from the call action of the target.

The shooter must only start the movement once he/she has received the information regarding trajectory, speed, angle and depth of the target.

The target must have passed the point where the shotgun barrels are positioned - not outside the shooter's field of vision.

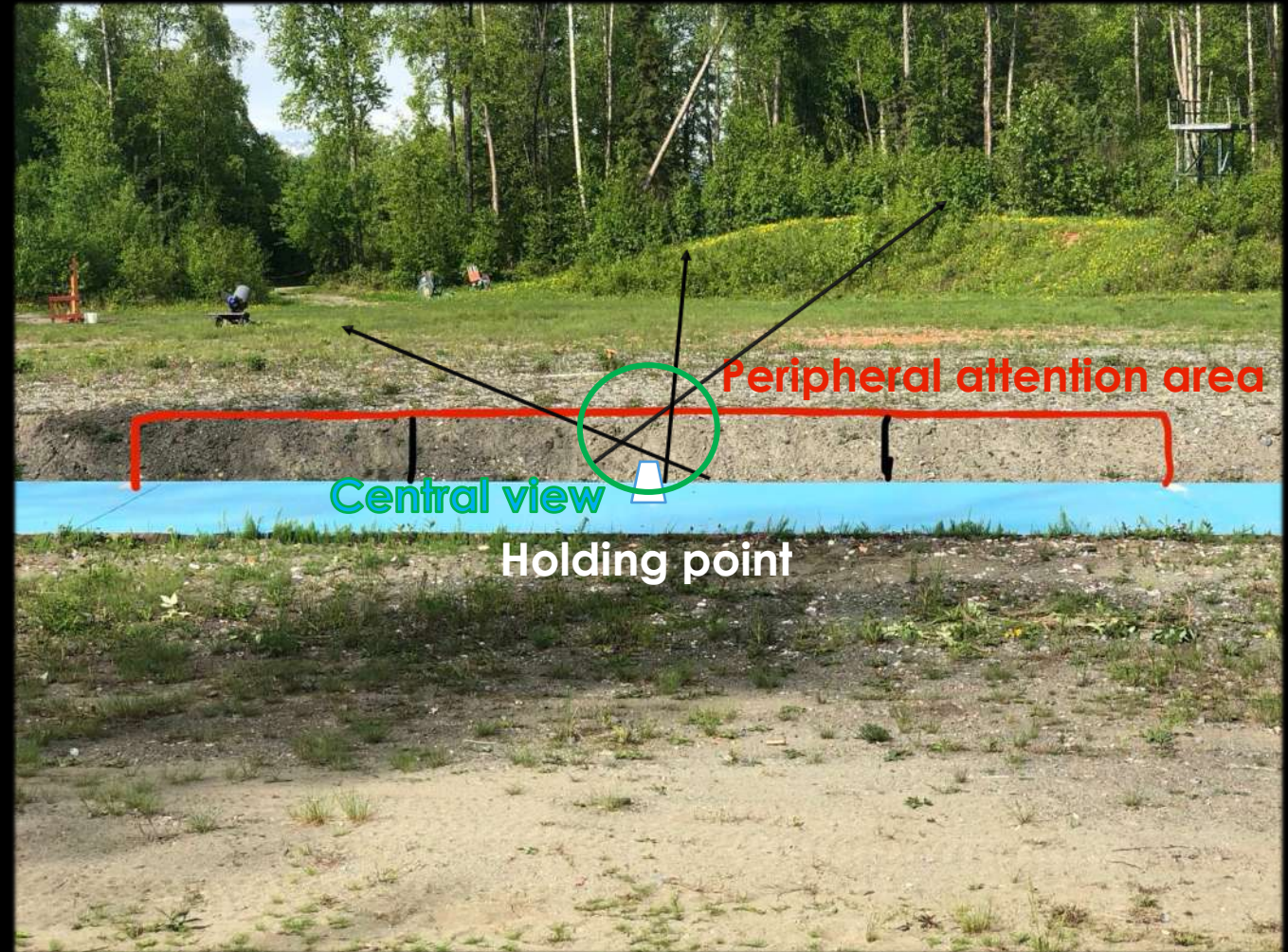
INITIAL MOVEMENT TRAP – HOW IT SHOULD BE DONE ¹⁹

- Hold an active state of vision until the time of the call.
- Reading of the correct information regarding:
 - distance
 - speed
 - angle
 - position of the target
- It is necessary the use of the peripheral awareness of the tactical eye so as to avoid going into fixation on the target.



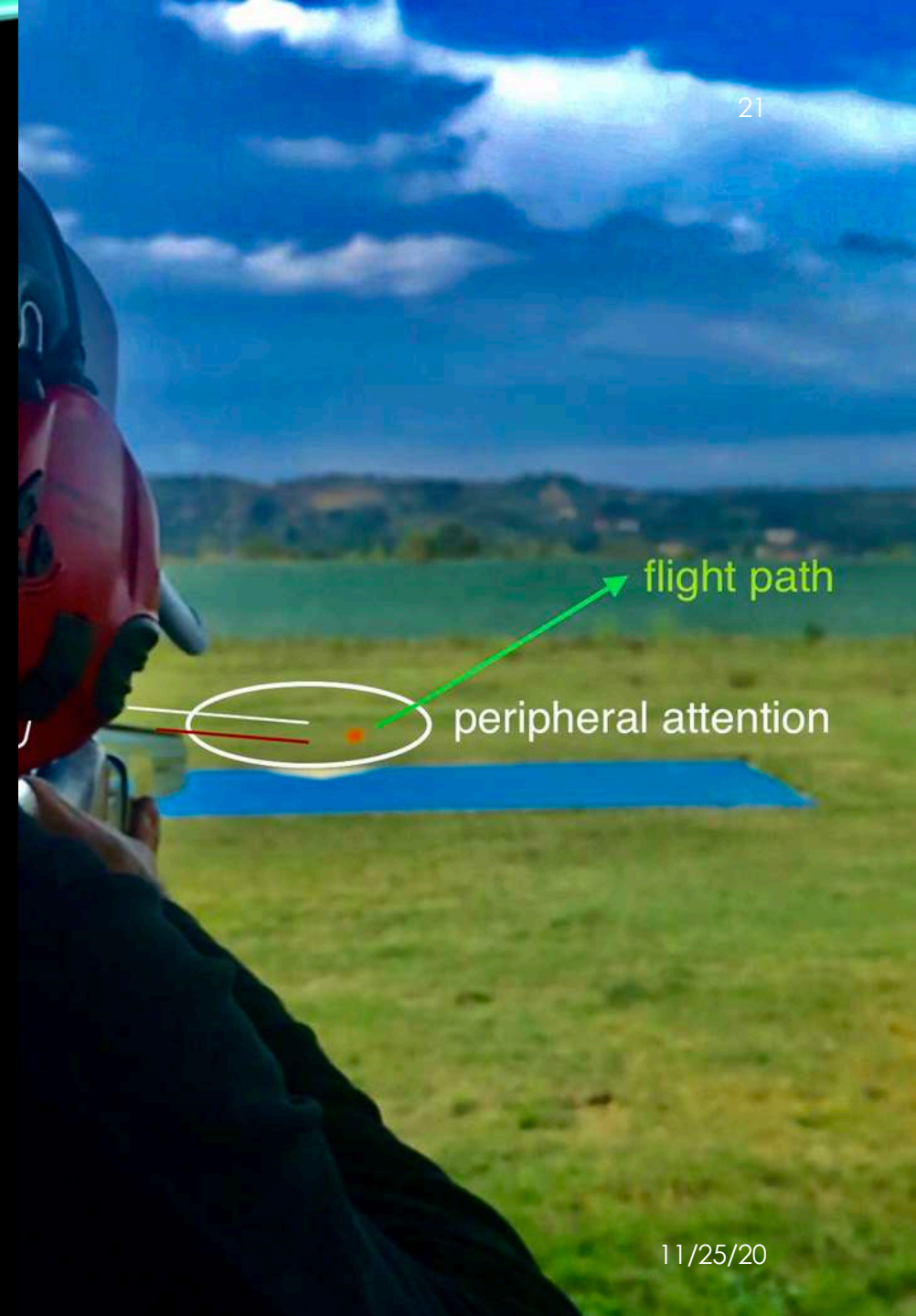
INITIAL MOVEMENT TRAP

- Central view in the direction of the area of intersection of the trajectories of the targets
- Extended peripheral vision while keeping the eye muscles relaxed



INITIAL MOVEMENT TRAP – READING THE TRAJECTORY

- Holding point near the crossing point;
- Barrels locked till the target shows its trajectory
- Eyes muscles stay relaxed avoiding to fix the target while calling with a wide peripheral attention;
- Movement begin with the target and the barrels both within the peripheral attention area;
- Smooth movement required;
- Barrels follow from the very first moment the clay target path;
- Soft focus;
- Divide the action: CALL, READ, COPY!!!!



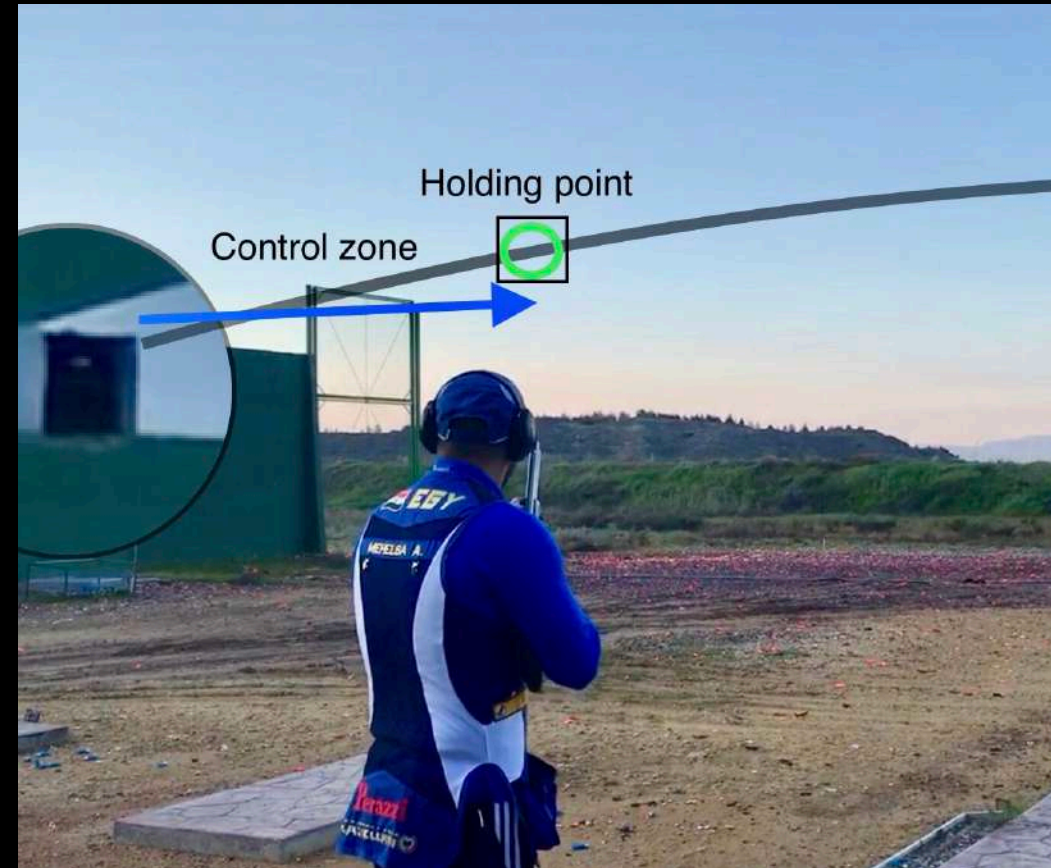
- It must allow the shooter to achieve and keep a good cheek contact on the stock of the gun and a correct eye-gun alignment.
- It must ensure the pelvis-shoulders-head alignment and avoid excessive activation of the oculocephalograph reflex;
- A number of different mounting techniques exist:
 - Mounting on the vertical axis;
 - Mounting with end at the firing point;
 - Mounting with rotation.

MOUNTING IN THE SKEET

INITIAL MOVEMENT SKEET

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- Central vision, depending on the techniques and platforms, in the direction of the target exit;
- Use of peripheral awareness to hold the eye holding point area and the tip of the barrels within the field of view;
- The focus stays close to the tip of the barrels in a panoramic mode without going deep.



INITIAL MOVEMENT ²⁴

SKEET – READING THE TRAJECTORY

- Consciously keep the tip of the barrels within the picture while calling;
- Be sure to perceive the tip of the barrels starting the movement;
- Left hand supports the gun to begin the initial movement toward the leading point of the target;
- Head holds the same position; eyes begin to align with the sight line of the shotgun;
- Right hand begins to lift up the stock in the vertical axis while the body is still rotating.



TRANSITION PHASE OF MOVEMENT

It's the phase taking place right after the initial movement until the moment the shooter decides to pull the trigger.

Why is it so important?

- It allows the correct alignment on the trajectory/anticipation of the target;
- It allows to keep the barrels-target visual contact during the whole movement phase and mounting phase in the Skeet;
- It allows corrections in case of inaccurate start.



TRANSITION PHASE OF MOVEMENT

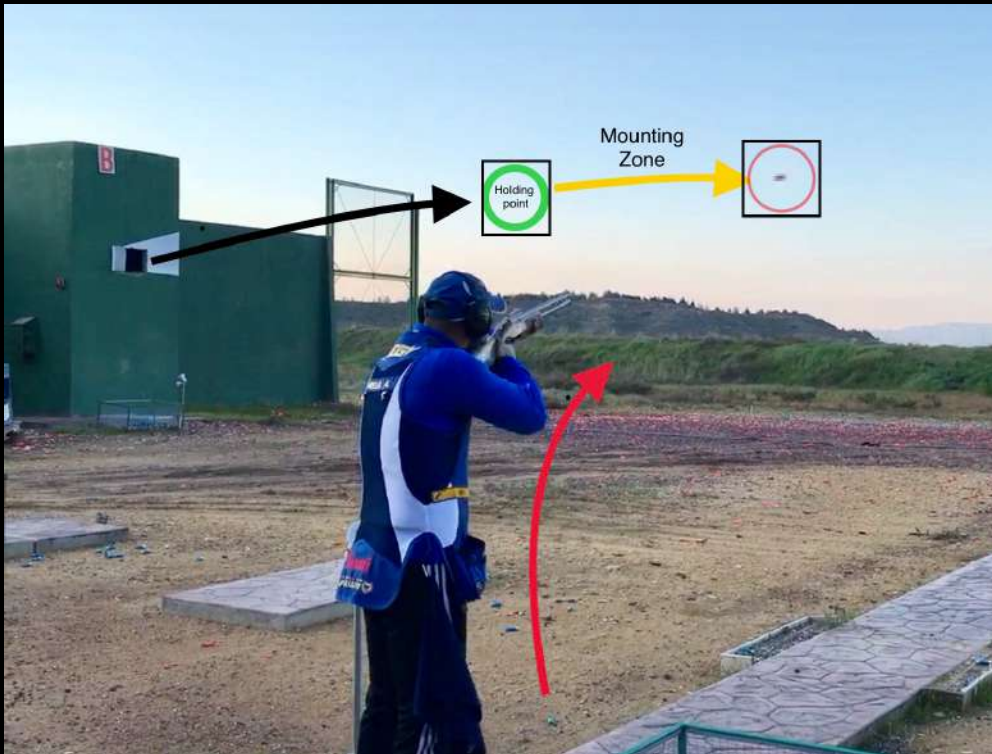
TRAP



- Accelerating movement to bring the barrels back to the centre of the visual field;
- The body makes the rotation keeping the projection of the centre of mass on the ground in unchanged position;
- The muscle chains on the opposite side of the mounting immediately direct the barrels on the trajectory of the target;
- Eyes and barrels move together, active vision not focused on the background, focus near to the barrels;
- Microsaccades retrace the trajectory of the target.

TRANSITION PHASE OF MOVEMENT

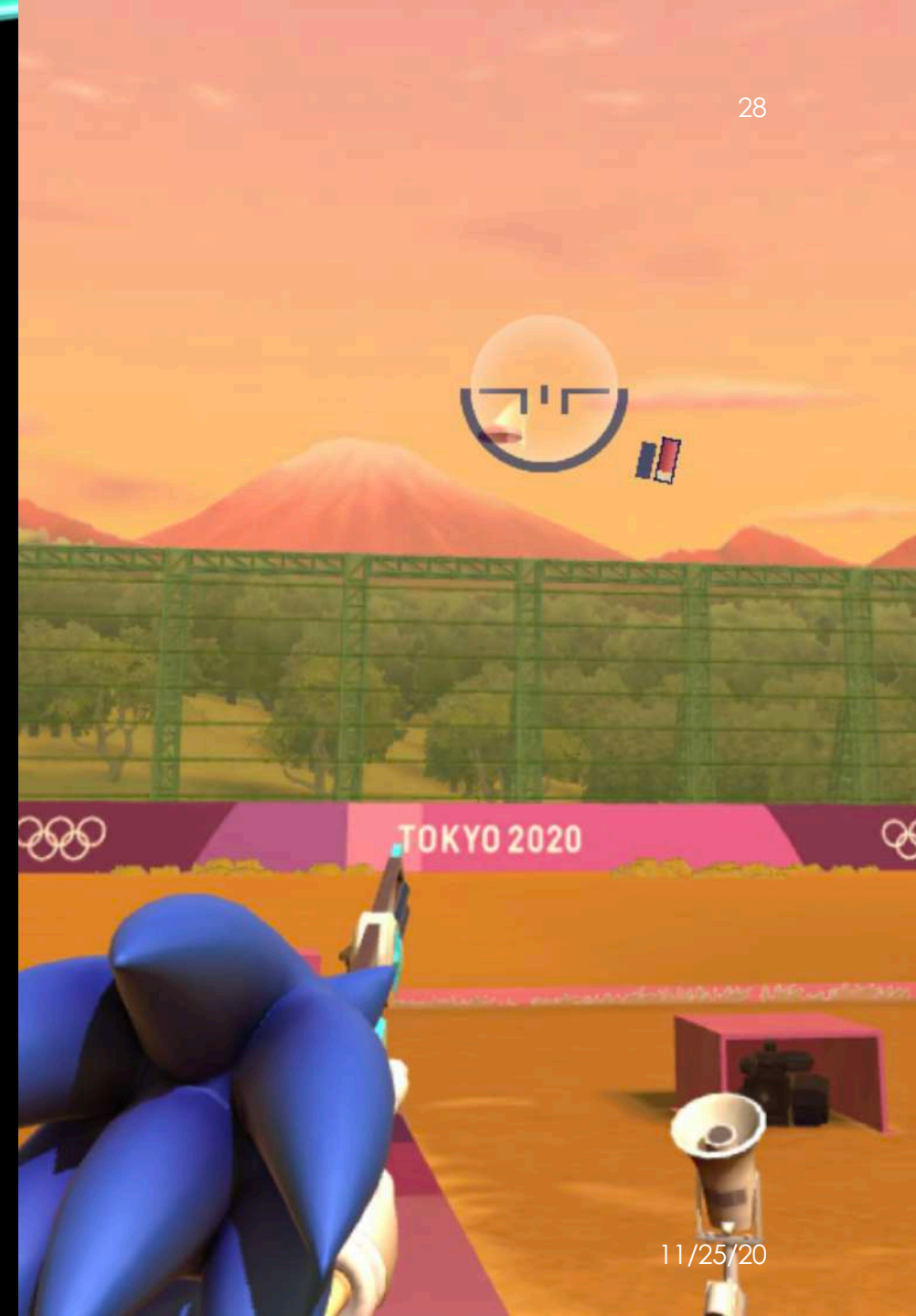
SKEET



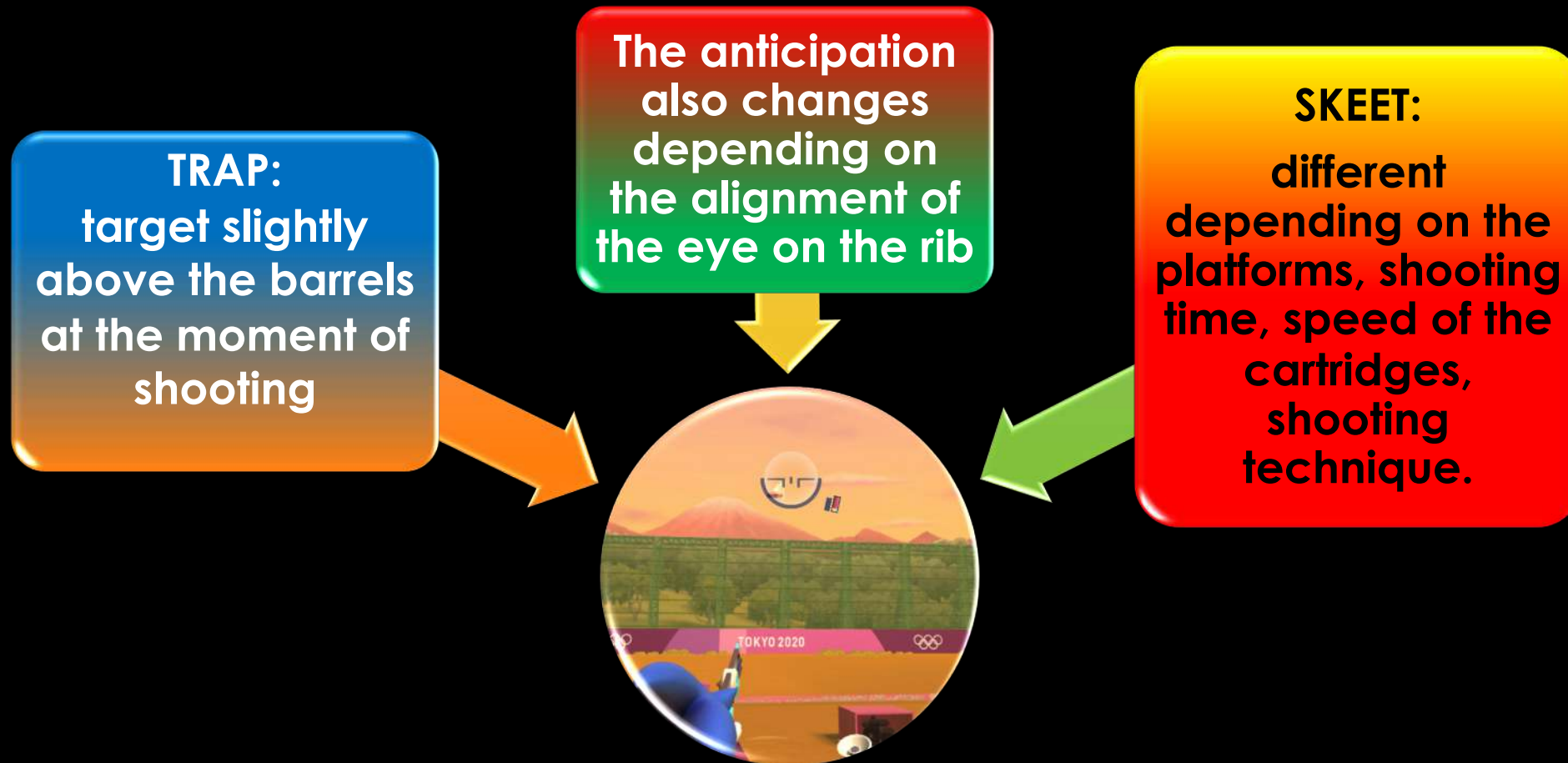
- Short and rapid mounting in the direction of the anticipation on the target, to then move at the same speed until the moment the shot is fired;
- The body rotates in sync with the barrels. constant alignment of head, shoulders and torso;
- Dorsal muscles activated during the rotation phase;
- The shotgun always stays close to the body;
- Left hand keeps the tip of the barrels on the trajectory of the target, the right hand quickly completes the mounting;

SIGHT PICTURE WHAT IT IS

- It's the image produced in our mind at the very moment we decide to pull the trigger;
- It is fundamental to keep the eye-barrels alignment;
- The more the shooter uses a proper sight picture, the higher the chances of achieving a correct performance will be.



SIGHT PICTURE



SIGHT PICTURE

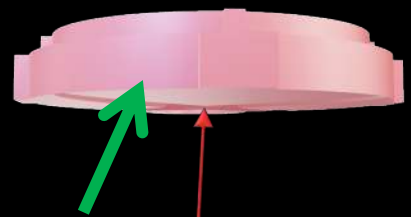
After firing the first shot you must keep your vision always aligned in the direction of the tip of the barrels and with a close focus.

Through peripheral attention the eyes will perceive:

- The residual trajectory of the target allowing the immediate adjustment of the second shot in the Trap;
- The position of the second target in the doubles in the Skeet, with immediate realignment of the tip of the barrels on the trajectory of the target.



ANTICIPATION SKEET

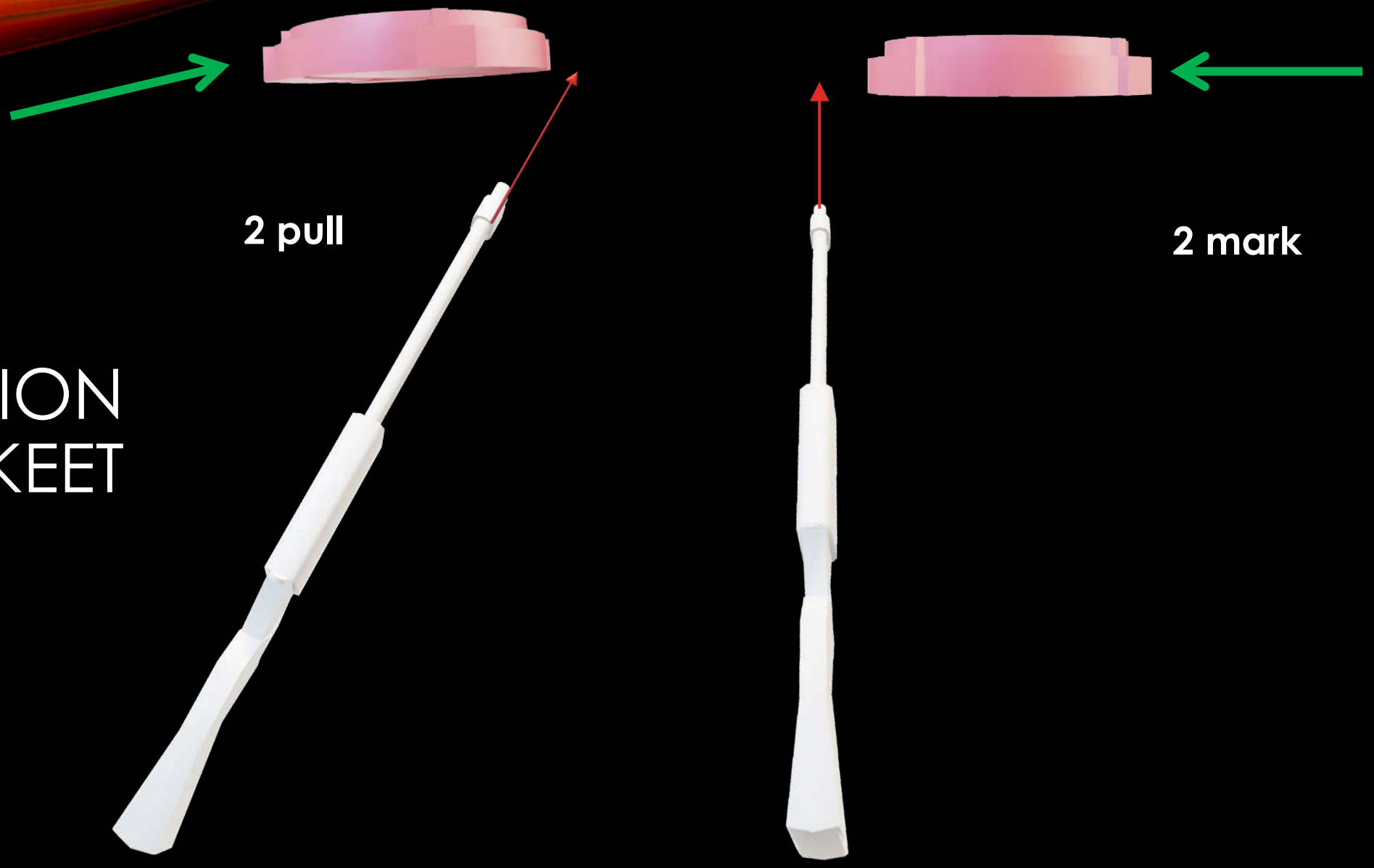


1 pull



1 mark

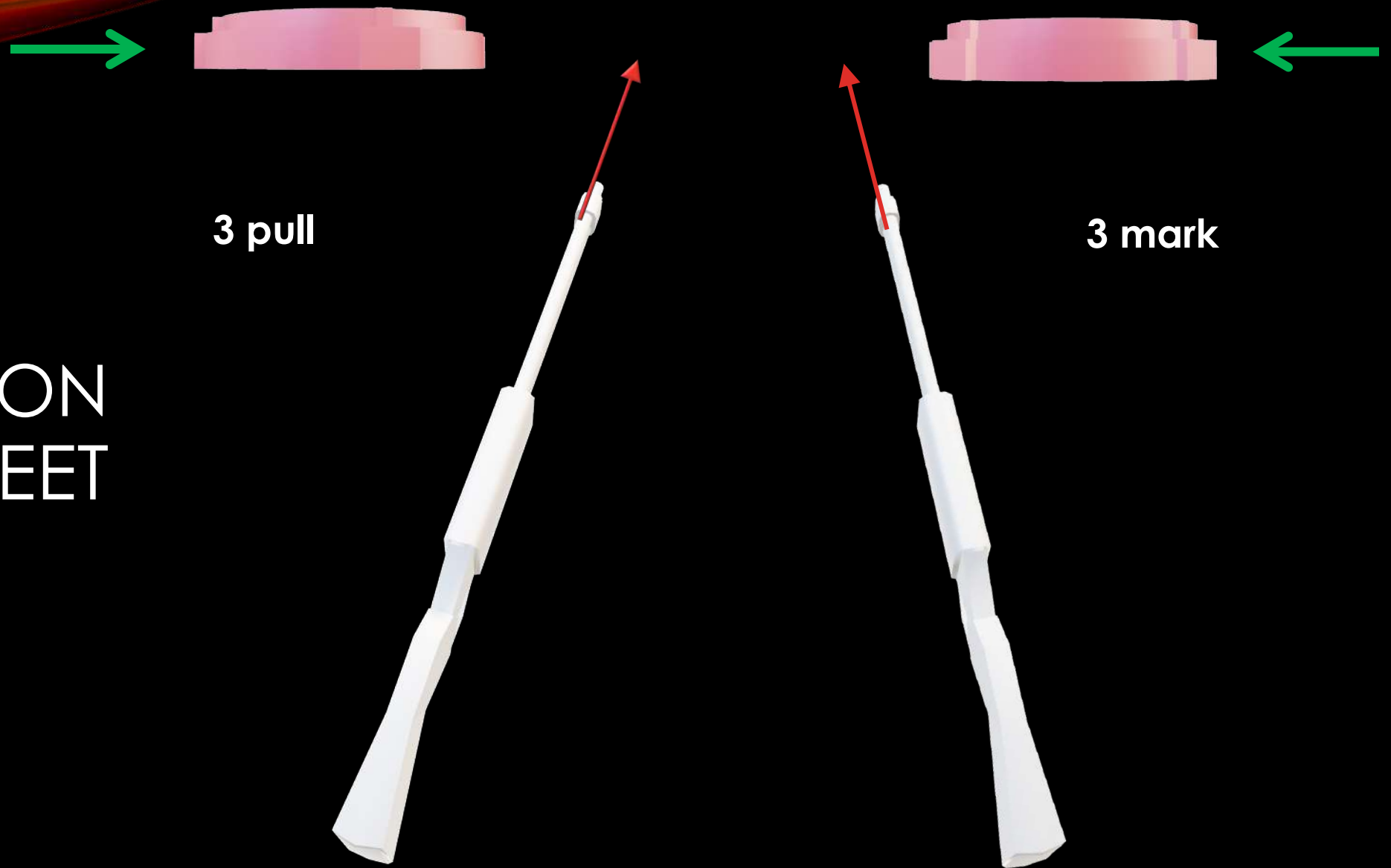




ANTICIPATION SKEET

2 pull

2 mark



3 pull

3 mark

ANTICIPATION SKEET

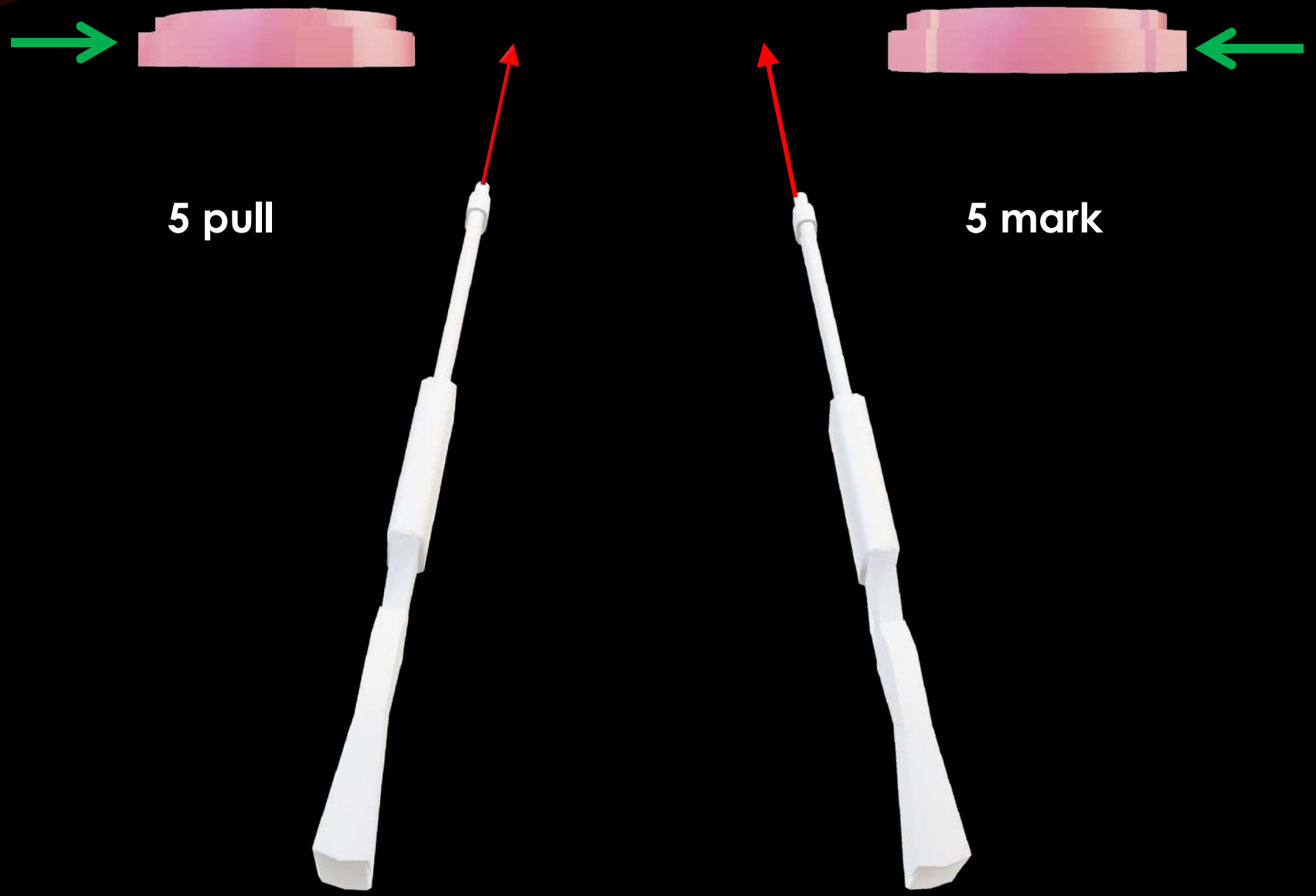


4 pull

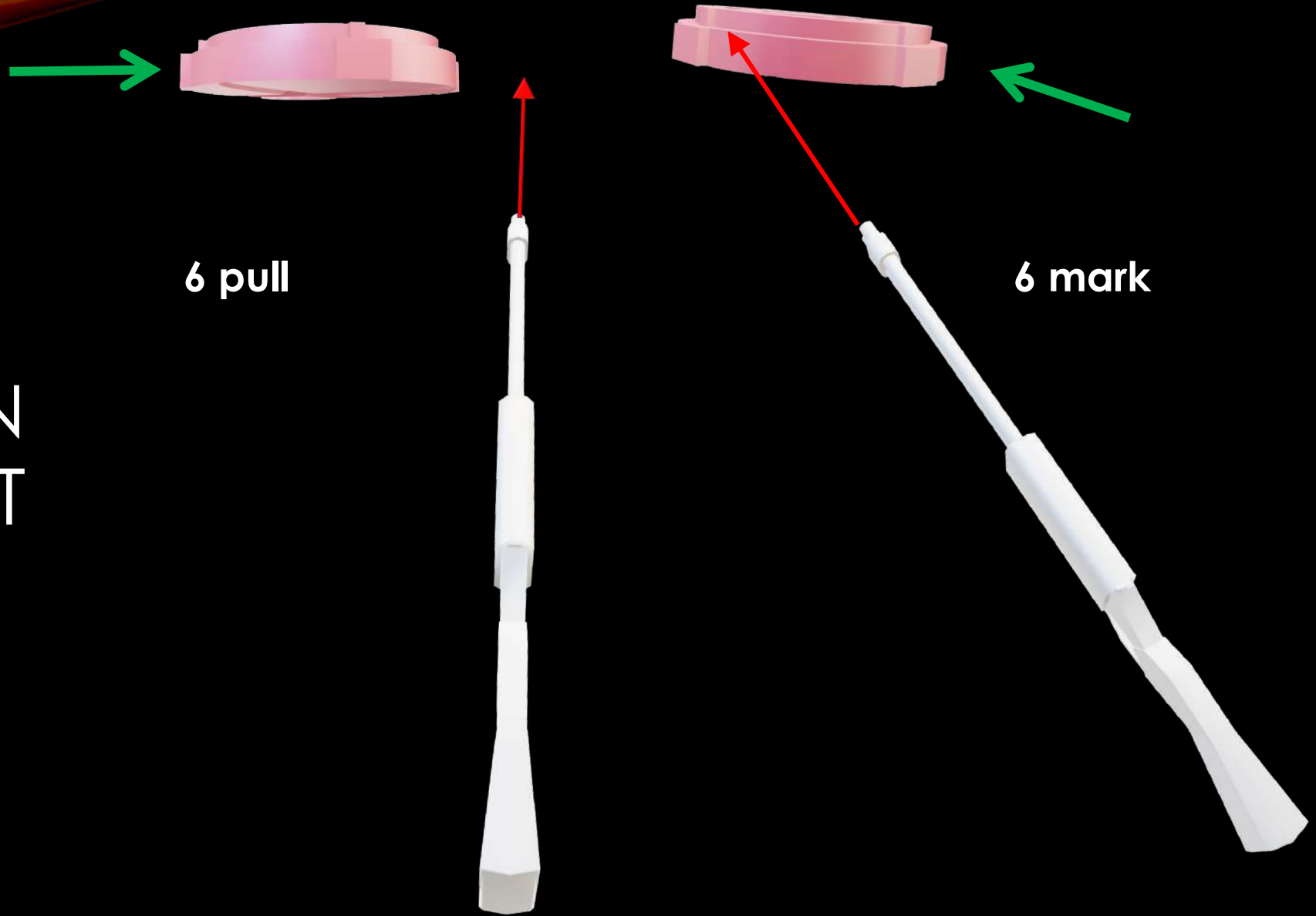


4 mark

ANTICIPATION SKEET



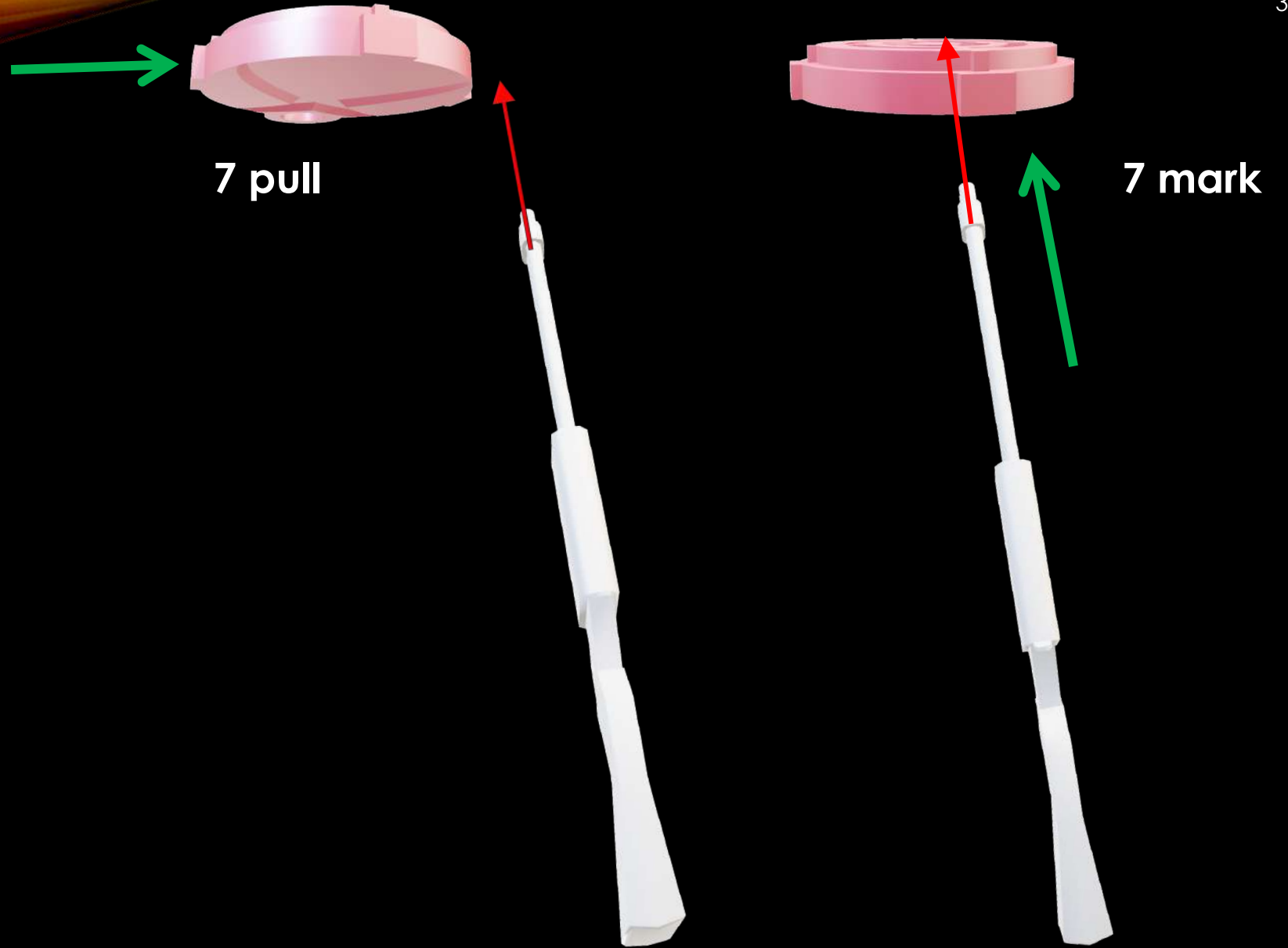
ANTICIPATION SKEET



6 pull

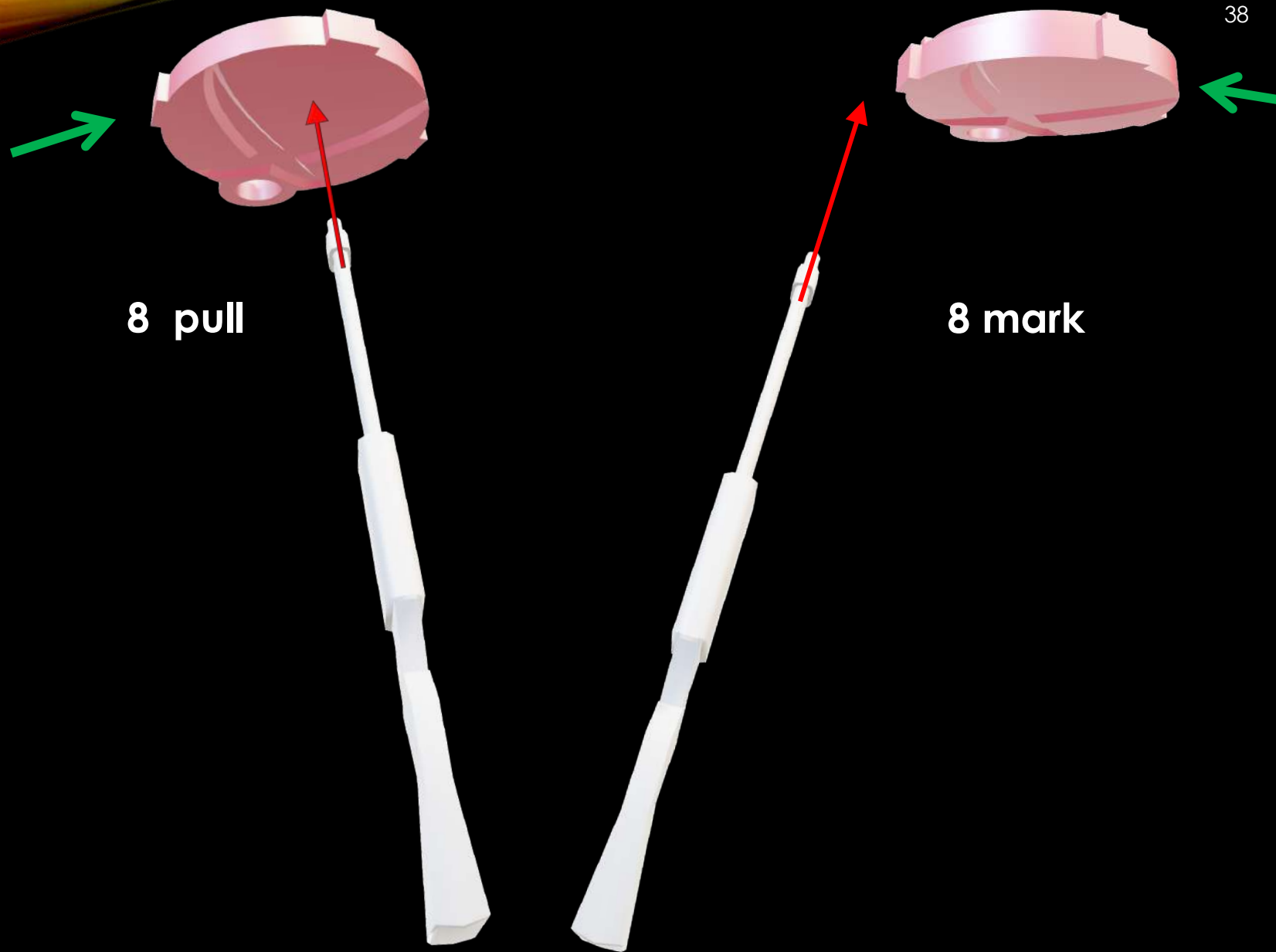
6 mark

ANTICIPATION SKEET



ANTICIPATION SKEET

ANTICIPATION SKEET



SKEET STATION 1 DOUBLE



SKEET STATION 4 1° DOUBLE



TRIGGERING

- How it should be done
- When to start triggering?
- Triggering in the second shot
- Click sensitivity in the Trap and Skeet



TRIGGERING

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It is the firing action, the moment when the shooter pulls the trigger

A proper triggering is based on:

Correct reading of the trajectory

Correct timing of when to start the shooting action

Correct research of the anticipation

Knowledge of the battery pack and shotgun used (helical or «V» shaped)

TRIGGERING

HOW TO DO IT

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- It must be short and firm;
- Only the muscles of the finger are activated by holding the hand on the pistol - solid but relaxed - making a short and firm traction;
- 0.2 tenths of a second from the brain impulse to the moment you start pulling the trigger;
- The finger always stays in contact with the trigger during traction;
- It is connected to the sight picture.



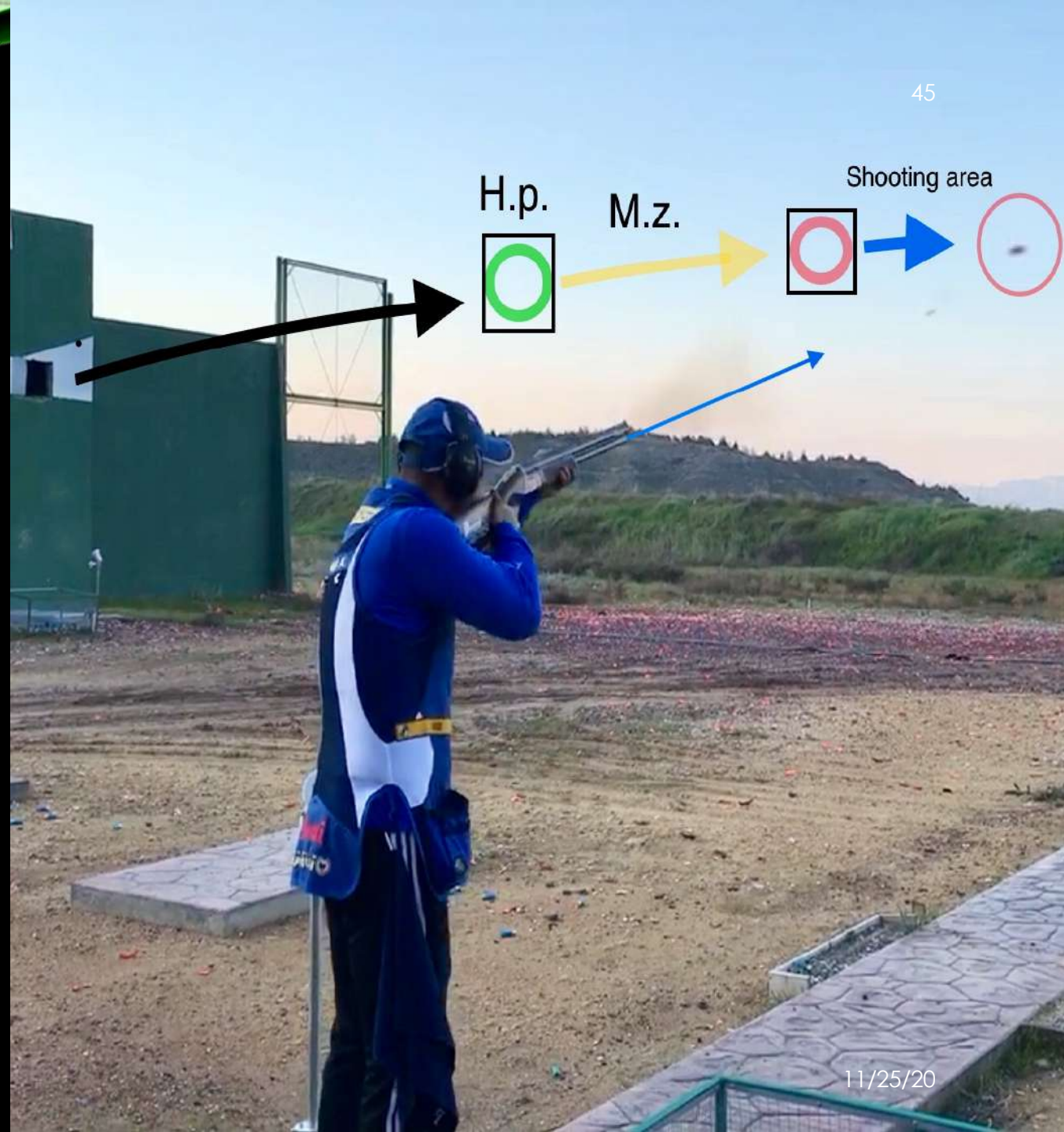
TRIGGERING TRAP

- It begins when you can see the tip of the barrels of the shotgun completely reducing the distance from the target image;
- It ends with the barrels accelerating the movement to reach, once the click is completed, the exact point where the saccade of the eye has stopped.



TRIGGERING SKEET

- It starts and ends the moment you have the perception of the proper anticipation, with the barrels keeping the same speed as the target



- At the end of traction on the first shot you always keep contact with the trigger to be instantly ready for traction on the second shot.
- The traction is always short and firm, you should never pull the trigger and release it completely or pull it and keep it under pressure for a long time.

TRIGGERING SECOND SHOT

TRIGGERING CLICK

- Trap: 1.2 kg for the first shot and 1.5 kg for the second;
- Skeet: 1 kg for the first shot and 1.2 kg for the second;
- Depending on the shooter's skills, it is possible to opt for slightly heavier or slightly lighter clicks
- Widespread tendency to avoid any unnecessary slightest movement in the clicks in order to have a more decisive and immediate trigger response;
- Each shotgun comes with different types of clicks.



TRIGGERING SPRINGS

- “V” shaped spring:
 - Immediate traction, with a prompt return to the initial position;
 - Best choice for a first and quick second shot;
 - Tendency to break frequently and are exclusively used in removable batteries
- Helical springs:
 - Tend to last very long over time;
 - As time goes by their performance decreases and traction becomes less rapid and softer.



At the end of the first shot, the shotgun will hold a synchronous movement with the eyes and body for a short period of time

- Trap:
 - Allows you to correct mistakes in the trajectory of the shotgun or wrong anticipation after the first shot
- Skeet
 - Allows you to realign towards the second target by correcting trajectory or anticipation mistakes

POST SHOT ACTION

POST SHOT ACTION TRAP

- The eyes stay in a state of active vision, with the tip of the barrels always within the field of vision;
- You must slow down the movement of the shotgun without stopping it (swing);
- One must perceive, through peripheral awareness, whether the target has been hit or not and its position;
- Keep the visual focus close to the barrels;
- By accelerating the movement, you should make the correction in order to find the new correct anticipation;
- Perform the triggering action of the second shot.

POST SHOT ACTION SKEET – AFTER THE FIRST SHOT

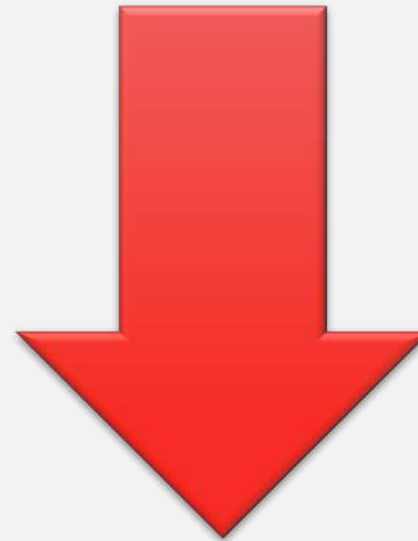
- It is essential to automate the movement after triggering on singles too;
- The eyes stay in a state of active vision, with the tip of the barrels always within the field of vision and a close focus;
- Peripheral awareness must be used to identify the second target;
- The movement of the shotgun slows down due to the support of the dorsal and abdominal muscles;
- The shooter realigns the tip of the barrels to the trajectory of the second target, looking for the correct anticipation from the beginning.

SHOOTING STYLES



Trap

- Follow Through
- Spot Shooting
- Constant Leading



Skeet

- Constant Leading
- Spot Shooting
- Follow through

SHOOTING STYLES⁵³

TRAP

Follow Through

- High control of the barrels during the movement to the target;
- Easy correction for the second shot;
- Required ability to start the movement only after the target has passed over the holding point.

Spot Shooting

- Short and rapid movement with high gun hold position;
- Difficult to make corrections for the second target;
- Shooting in a zone where the target going not always the same.

Constant Leading

- Good control of the first shot;
- Difficult to maintain the leading for sharp angled targets;
- Difficult to recover the target by the second barrel.

TRAP WORLD CUP FINAL 2015 NICOSIA (CYP)

- <https://www.youtube.com/watch?v=0uszOwl1gkc>

SHOOTING STYLES

SKEET

55

Constant Leading

- Reduced range of movement to accomplish the mounting action and more balance
- More time for the second target
- The shooter must have a good reaction time and time to learn to quickly accomplish the mounting front-facing the target

Spot Shooting

- A lot of time to learn the technique and to preserve the skills
- Great visibility and control of the first target
- Higher results with normal weather condition
- In difficult environment conditions it is very difficult to make corrections for the first target

Follow Through

- Possible to make corrections in case of wrong mounting action;
- Wide range of movement either for the first and the second target
- Difficult to reach the second target
- A lot of effort to return on the second target

SKEET WORLD CHAMPIONSHIP FINAL 2015 LONATO

- <https://www.youtube.com/watch?v=Xu8eWISfN7c>

HOW TO DETERMINE WHEN TO MOVE TO THE TARGET



Essential for the shooter:

- Determine any factor that may positively or negatively influence the moment when to start the action
- Which factors?
- What to do to always have an appropriate initial movement timing?

HOW TO DETERMINE WHEN TO MOVE TO THE TARGET TRAP

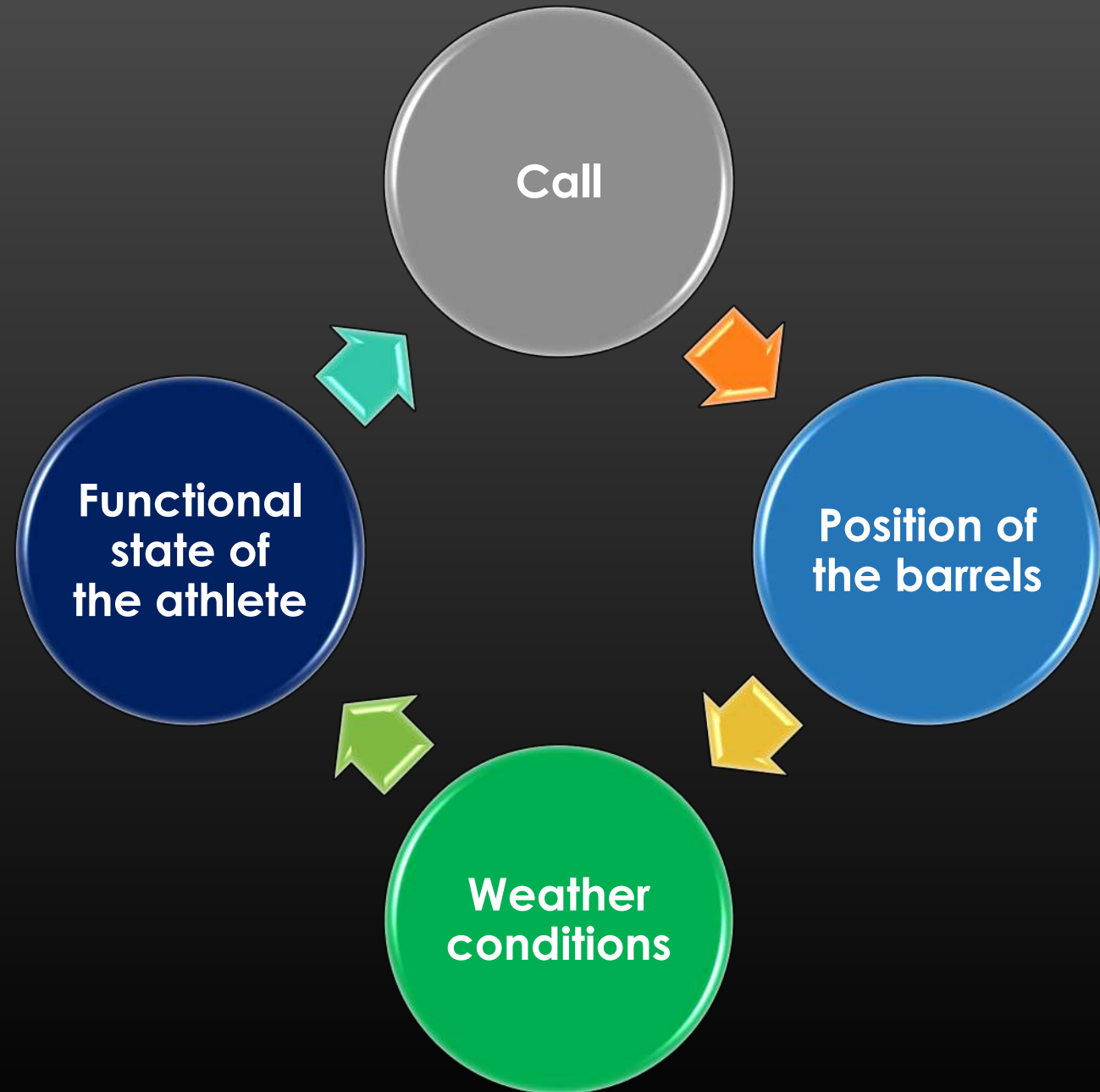
The shooter always keeps the eye-barrels angle constant

The movement starts only after the target has passed the waiting point of the barrels and the trajectory has been read correctly

When the movement starts, the target and the barrels must be within the peripheral vision area

Be ready to start the movement in any situation without changing your shooting technique.

FACTORS
THAT MAY
INFLUENCE
THE
SHOOTER'S
CHOICE OF
WHEN TO START
THE TECHNICAL
ACTION
TRAP



CALL

The call may affect the reaction time based on delays caused by:

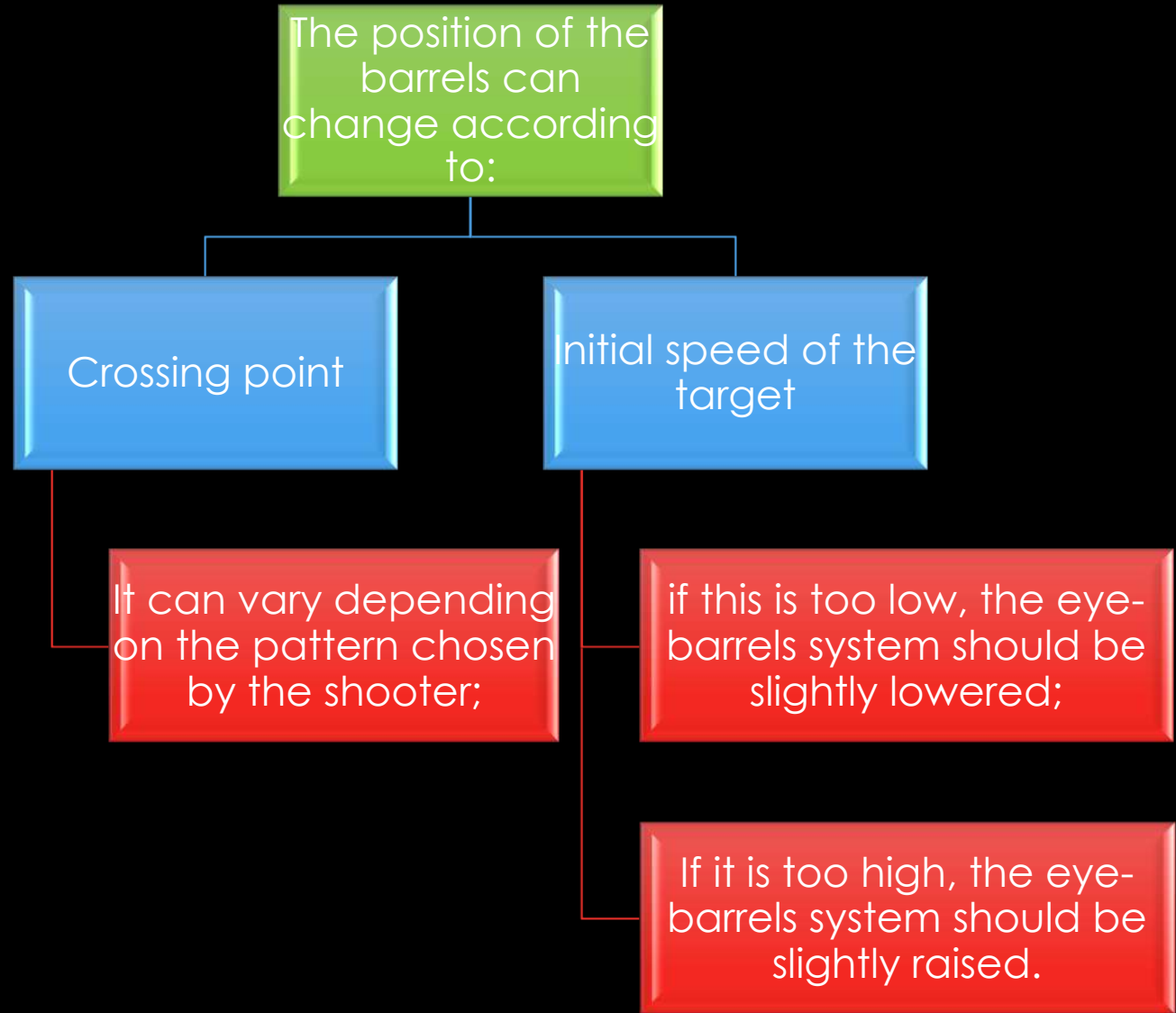
Throwing machines:

- Slightly raise the eye-barrels system in order to avoid the 'out of time';

Microphones:

- Keep the active vision with relaxed shoulders and abdominal muscles;
- Vary the length and intensity of the voice.

HOLDING POINT



HOLDING POINT - 2

The position of the barrels can change according to:

Throwing patterns

Type of bunker

Low: the eye-barrels system must be lowered

High: the eye-barrels system must be raised

Low: the eye-barrels system must be slightly lowered

High: the eye-barrels system must be slightly raised

WEATHER CONDITIONS

Weather

- Shade near the exit area of the target or in case of snow
 - The eye-barrels system needs to be slightly raised
- Fog or poor visibility
 - The eye-barrels system needs to be slightly lowered

WEATHER CONDITIONS - 2

Weather

- Wind blowing forward lifting the targets
 - The eye-barrels system needs to be slightly raised
- Wind blowing from behind pressing the targets
 - The eye-barrels system needs to be slightly lowered

FUNCTIONAL STATE

Functional state:

In case of excessive reactivity

The eye-barrels system needs to be slightly lowered

Lengthen the stock of the shotgun by a few millimetres

In case of poor reactivity

The eye-barrels system needs to be slightly raised

Shorten the stock of the shotgun by a few millimeters

HOW TO DETERMINE WHEN TO MOVE TO THE TARGET TOOLS FOR TRAP

- Reference points in the background;
- Elements defining an area within which movement must begin:
 - fingers
 - base of the cartridge
 - transparent graph paper
- Change the length of the call until the target has passed the barrels waiting point;
- Record your timing between call and firing;
- Video of the initial movement;
- Pre-shot routines (identifying and activating starting keys).

The shooter always keeps the visual angle between the barrels and the waiting point of the target constant

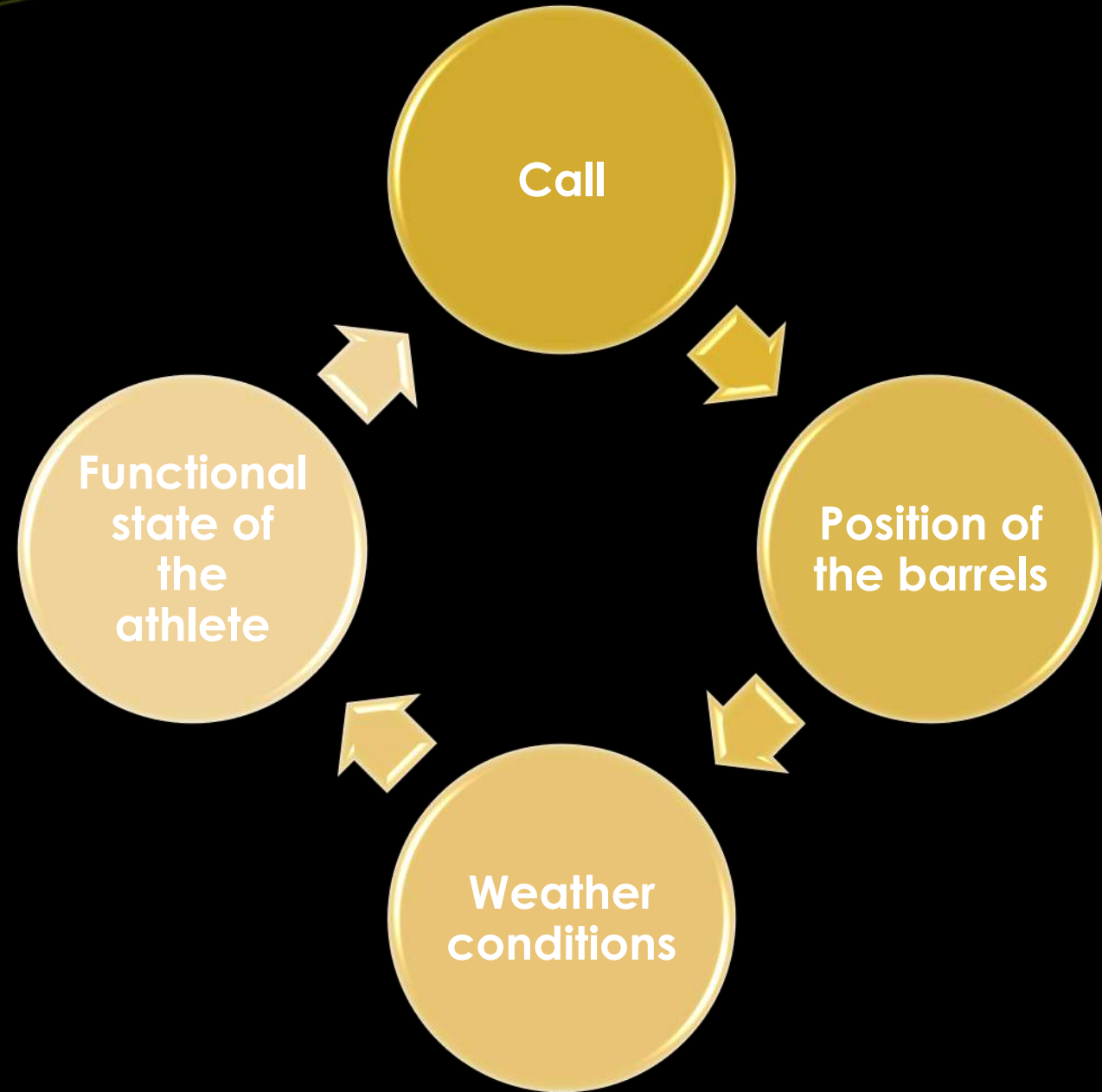
Initial movement with the tip of the barrels always in front of the target

The movement starts with the target and the barrels within the peripheral view

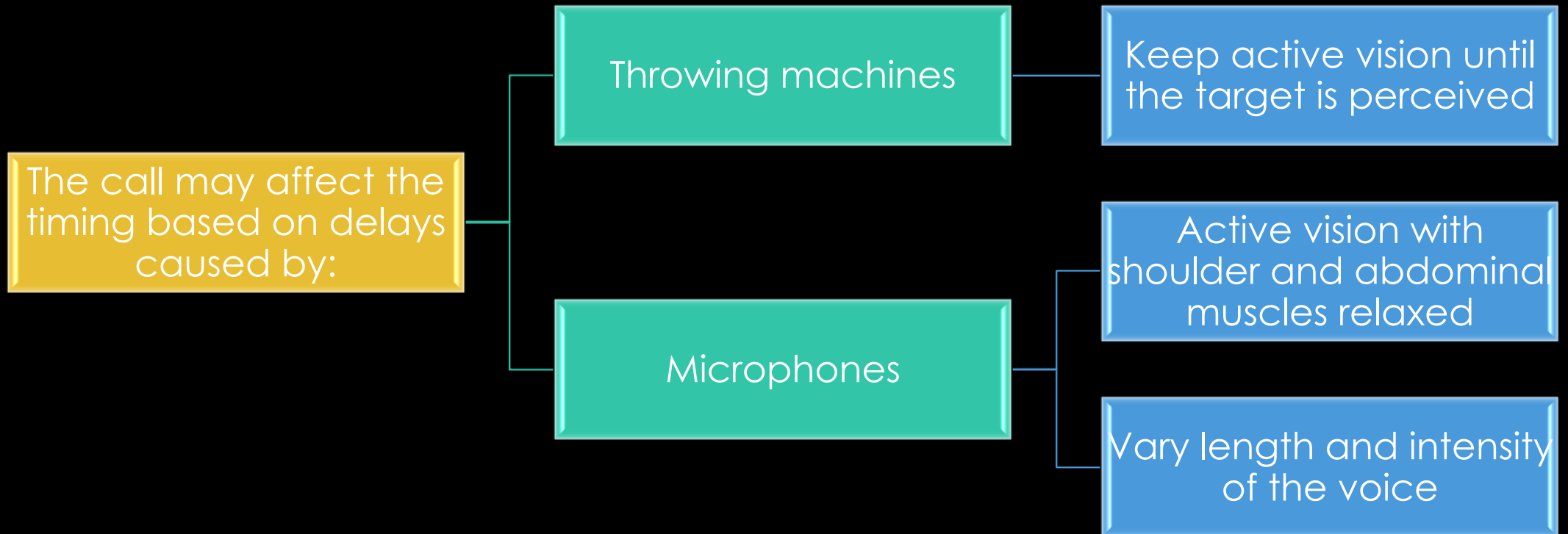
You have to be ready to start the movement in any situation without changing the shooting technique and most of all the natural reaction time.

HOW TO DETERMINE WHEN TO MOVE TO THE TARGET SKEET

FACTORS THAT MAY INFLUENCE THE INITIAL MOVEMENT SKEET



CALL



HOLDING POINT

The position of the barrels can change depending on:

- Type of cabin and proximity of the fields
 - Slightly open the barrel position
- Position of the throwing machines
 - Change the height of the eye-barrels system to determine the exact initial trajectory
- Initial speed of the target
 - When too low: the barrels should be slightly closer to the cabin
 - When too high: the barrels must be moved slightly away from the cabin

HOLDING POINT 2

The position of the barrels can change depending on:

- Launching trajectories
 - Low: the barrels must be slightly lowered
 - High: the barrels must be slightly raised
 - Internal: the barrels must be slightly widened
 - External: the barrels must be slightly brought closer together

WEATHER CONDITIONS

Weather

Shade near the exit area

The eye-barrels system must be moved slightly away from the cabin

Fog or poor visibility of the background

The eye-barrels system must be brought slightly closer to the cabin

Functional State

Functional state:

In case of excessive reactivity

The barrels must be brought slightly closer to the cabin

In case of poor reactivity

The barrels must be brought slightly away from the cabin

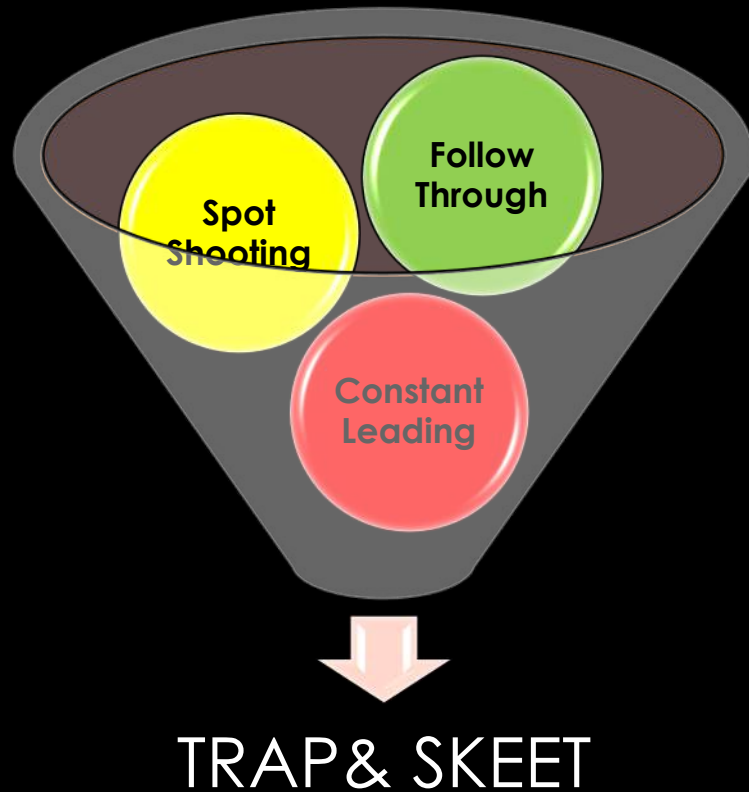
In case of a change in the muscular mass

Check the pitch angle, height and eye-rib alignment

- Reference points in the background;
- Speed radar;
- Elements determining an area within which movement must begin:
- Fingers
- Trees, stones
- Meter
- Video of the initial movement;
- Pre-shot routines (identify and activate the starting keys).

HOW TO DETERMINE WHEN TO MOVE TO THE TARGET TOOLS FOR SKEET

GOOD AND BAD COMPONENTS OF THE DIFFERENT STYLES



GOOD AND BAD COMPONENTS OF THE DIFFERENT STYLES TRAP

Follow Trough

- High control of the barrels during the movement towards the target plate;
- Easy to make adjustments in the case of a second shot;
- Different points on the trajectory where you can decide to close the shooting action;
- Long movement to reach the high and 45° targets;
- Body always aligned with the shotgun;
- Poor recoil;
- Optimal use of peripheral vision to keep both barrels and the target under control during movement.

Spot Shooting

- Short and immediate movement with a high barrels position;
- Problems in making corrections with the second shot;
- Firing at the point of impact without following the trajectory of the target;
- Minimum rotation angle;
- Potential loss of the eye-barrels connection;
- The sight picture is not always the same;
- Increased recoil when the movement is wrong.

GOOD AND
BAD
COMPONENTS
OF THE
DIFFERENT
STYLES
TRAP

GOOD AND BAD COMPONENTS OF THE DIFFERENT STYLES TRAP

Constant Leading

- Good control on the first shot;
- Difficulty in keeping the anticipation for very angled plates;
- Difficulty in catching the target with the second shot;
- Potential loss of balance during rotation;
- Chance of losing the low plates with a low angle;
- Not always a good eye-barrels alignment during the action.

OLYMPIC GAMES RIO 2016 MEN'S TRAP FINAL

Olympic Games Rio 2016 Men's Trap Final

<http://www.olympicchannel.com/en/video/detail/shooting-men-s-trap-qual-and-final-rio-2016-replays/?uxreference=playlist>

GOOD AND BAD COMPONENTS OF THE DIFFERENT STYLES SKEET

Follow Through

- It is possible to make corrections in case of wrong mounting;
- Wide range of movement for both the first and second target;
- Difficulty in reaching the second target;
- Ease at keeping the same rhythm between the targets;
- Poor recoil;
- Body always aligned with the shotgun.

Spot Shooting

- Long time to learn the technique and to preserve it;
- Excellent visibility and control of the first target;
- Easy to achieve high results in good environmental conditions;
- Difficult to make corrections during the action in bad environmental conditions (weather, wrong setting of the targets...);
- It is very important to use peripheral attention;
- Higher chance of mistake in the mounting;
- Increased recoil when the mounting is wrong;
- Risk of injury of finger on the trigger when triggering is performed before the end of the mounting.

GOOD AND
BAD
COMPONENTS
OF THE
DIFFERENT
STYLES
SKEET

GOOD AND BAD COMPONENTS OF THE DIFFERENT STYLES SKEET

Constant Leading

- Reduced range of movement to complete the mounting;
- Better balance;
- Good reaction time required;
- Need to learn how to complete the mounting always front-facing the target;
- It is essential to activate the peripheral attention;
- Excellent control of both targets;
- More time available to correctly locate and catch the second plate;
- Minimal range of movement for both targets;
- Easy to keep the rhythm throughout the series.

SKEET WORLD CHAMPIONSHIP FINALS 2015 LONATO

- <https://www.youtube.com/watch?v=Xu8eWISfN7c>

SHOOTING IN DIFFERENT WEATHER CONDITION

The shooter shall be able to adapt himself to all kind of weather conditions:

- ✓ Sunny;
- ✓ Partly cloudy;
- ✓ Rainy;
- ✓ Windy;
- ✓ Snowy;
- ✓ Foggy;
- ✓ Hot towed.



SHOOTING IN DIFFERENT WEATHER CONDITION SUNNY

Be careful when:

- Sun is in front of the bunker in Trap;
- Early in the morning in Skeet in front station 1 all targets, and station 8 low house.

Use proper
sunglasses
to prevent
brightness

SHOOTING IN DIFFERENT WEATHER CONDITION PARTLY CLOUDY



Be careful when:

- Light suddenly changes just before to call for the target, with a not uniform background

Choose the right set of lenses which highlight the orange of the clay target and enhance the contrast in low light condition

SHOOTING IN DIFFERENT WEATHER CONDITION RAINY

- ✓ Be careful when:
 - It's not easy to perceive the initial trajectory
 - Raindrops fall on the gun or on the lenses
- ✓ Use the same technique, full focus only on the performance
- ✓ Get ready to wear rain clothes
- ✓ Take with you all the necessary equipment
- ✓ If given the chance, avoid wearing glasses because drops can fall on the lenses leading to poor visibility



SHOOTING IN DIFFERENT WEATHER CONDITION WINDY

- Be careful when :
 - The wind may change the target's flight path or push it from different sides
- Be ready to understand direction of the wind and if needed make corrections to the holding point to compensate changes in the target speed or trajectory
- Be focused at keeping the barrels within the peripheral attention with no hard focus to keep them locked



SHOOTING IN DIFFERENT WEATHER CONDITION SNOWY

- Be careful when:
 - The glow of the snow distracts you
 - Not easy to perceive the initial trajectory of the target
 - Very low temperature
- Wear different layers of warm clothes
- Wear sunglasses, using dark lenses to enhance the contrast in high light condition
- If it is not possible to perceive the initial trajectory of the target, it is recommended to move the holding point a bit further away from the bunker in Trap and from the houses in Skeet



SHOOTING IN DIFFERENT WEATHER CONDITION FOGGY



- Be careful when :
 - It may be difficult to see the whole flight trajectory of the target
 - Try to focus harder to get a BETTER VIEW
 - Change the holding gun position to perceive earlier the trajectory
- Be ready to react with your usual timing
- Choose the right lenses which highlight the orange of the target and enhance the contrast in low light condition

SHOOTING IN DIFFERENT WEATHER HOT TOWED

- Be careful when:
- You are travelling to a very hot place
- Start hydrating more at least 10 days earlier
- Wear light clothing
- Increase hydration at the end of each series (water is adequate)
- Attention to air-conditioned areas



CORRECTIONS OF THE MOST COMMON MISTAKES



Anticipating the reading time of the trajectory when you call the target

Correct angular distance with aiming line

Correct holding point



Moving towards the known direction on the call

Activate peripheral attention

Start slightly late by lengthening the voice



Contracting muscles on the call

Use diaphragmatic breathing

Short call

Lower the volume of the call

CORRECTIONS OF THE MOST COMMON MISTAKES

Contracted muscles of the shoulders and arms or neck during movement

- Keep the neck muscles relaxed
- Loosen the hand grip on the pistol
- Activate peripheral attention and soft focus

Fixation on the target while it is running the first meters after release

- Keep the peripheral active vision state on the tip of the barrels up to the exit of the target

Carrying out barrels or body movements during the call

- Use diaphragmatic breathing
- Keep back and arm muscles relaxed
- Soft focus

CORRECTIONS OF THE MOST COMMON MISTAKES ⁹⁴

Problems in starting the movement or in controlling the barrels during the initial movement

- Check the balance of the shotgun
- Skeet: back balance of 15-20 grams
- Trap: variable balance depending on the type of shooter - fast or slow. Start with neutral balancing

Very late or very early start

- Voice modulation
- Position of the barrels

Narrow hand on the pistol of the stock when pulling the trigger

- Keep the finger pressure on the trigger up to the transition phase
- Perform the mounting action by guiding it with the arm opposite the arm on the mounting side

CORRECTIONS OF THE MOST COMMON MISTAKES

Triggering not firm and too soft

- Put the fingertip under pressure on the trigger before the call
- Keep the fingertip under pressure on the trigger during transition phase

Finger held too detached or too much pressure on the trigger after the shot

- Adjust the distance of the trigger to allow the correct positioning of the third phalanx
- Check for the correct position of the hand on the pistol

Early or delayed triggering

- Adjust the angular distance between the eyes and the line of sight
- Keep active state of vision on the call

TACTICS IN SHOOTING



During preparation for the competition:

- Coach must think how the different situations can affect the shooting competition;
- Define tasks to be undertaken before and during the competition;
- Technical, physical and mental aspects need to be trained.

TACTICS IN SHOOTING

TECHNICAL TASKS TO IMPROVE

Before the competition:

- Training with increased or decreased speed of the targets
- Training in hard environmental conditions (strong wind, heavy rain, lack of sunlight, dust...)
- Training with similar conditions as the next competition (same machines, same targets, similar background, similar weather condition)

TACTICS IN SHOOTING TECHNICAL TASKS TO IMPROVE



Before the
competition:

- Training with different cartridges
- Training for finals' strategy
- Training for shoot-off
- Training for different targets

Special
preparation
for special
needs:

- Training for some angled targets in Trap or specific stations in Skeet
- Issues with microphones or painting on mark or issues with light of the Skeet cabins

Concentration

- Improving mental control by mental training:
 - Imagery
 - Thought control
 - Breath taking
 - Relaxation
 - Balance techniques
- Arousal
- Improving self confidence
- Positive self talking
- Developing coping strategies

TACTICS IN SHOOTING MENTAL TASKS TO IMPROVE

TACTICS IN SHOOTING PHYSICAL TRAINING TASKS TO IMPROVE

Depending on the competition schedule and the season, it is necessary to increase the physical abilities:



- Endurance
- Strength
- Coordination
- Reactivity



TACTICS IN SHOOTING EQUIPMENT TECHNOLOGY

Choosing a suitable shotgun

- Shotgun's barrel architecture
- Preparing a better shotgun by using different chokes
- Gun fitting of the gun:
 - After losing or gaining weight
 - After injuries
 - After changing shooting styles
- Choosing best cartridges



During the competition
mental strategies and
mental strength are the key
for achieving the set goals



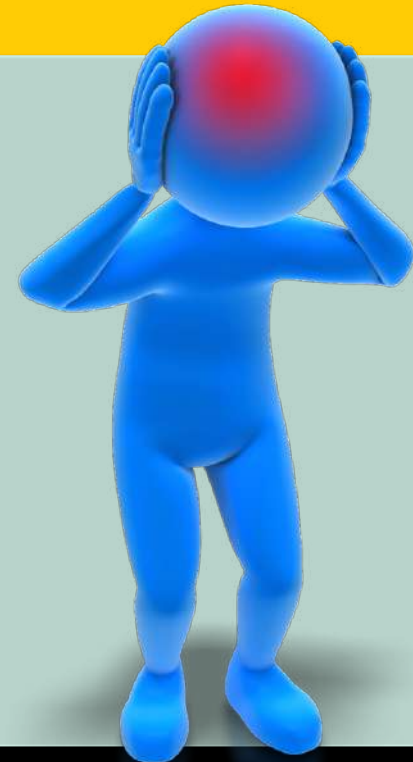
TACTICS IN SHOOTING MENTAL STRATEGIES DURING THE COMPETITION

TACTICS IN SHOOTING

MENTAL STRATEGIES DURING THE COMPETITION

Factors which may interfere:

- Pieces of targets coming from other ranges
- Voice of the audience
- Range system failure
- Referral by the referee
- More time no-bird
- Noise from other shooters
- Out of order gun
- Different weather conditions



TACTICS IN SHOOTING MENTAL STRATEGIES DURING THE COMPETITION

Coach
must set
different
“troubled”
training
sessions:

Throwing cartridges or pieces of targets
while the shooter is shooting

Switch on the mobile phone alarm
clock

Close the microphone while the shooter
calls for the target

Training on targets with known
trajectories

TACTICS IN SHOOTING

MENTAL STRATEGIES DURING THE COMPETITION

Coach must set different “troubled” training sessions:

- Different number of shooters in the same squad
- Training in different shooting ranges
- Training with different cartridges
- Simulate failure of either gun or cartridges (first or second barrel)
- Simulate interruptions during the round



Shooting Training Diary



SHOOTER:

PLACE:

LAY OUT:

DATE:

| ROUND | 1 st BARREL | 2 nd BARREL | MISSED | DOUBLE ZERO | TOTAL HITS | |
|-------|------------------------|------------------------|--------|----------------|---------------|--|
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| GOALS: | FOLLOW UP: |
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| WEATHER: | | |
|----------|-------|--------|
| SUNNY | RAINY | CLOUDY |
| | | |
| | | |

SHOOTING DIARY

COACH DIARY



- Planning and analyzing athletes' performance and coaching work
- Need to write down notes or observations, not only by heart
- Planning training sessions or competition and assess them becomes easier

TRAINING SESSION PLANNER



The coach diary is a training session planner, which allows the coach to make a plan of the activities to be carried out on the field



It helps to remember the different stages of the training plan



It includes the specific training activities (duration, intensity...) the coach recommends to the athletes

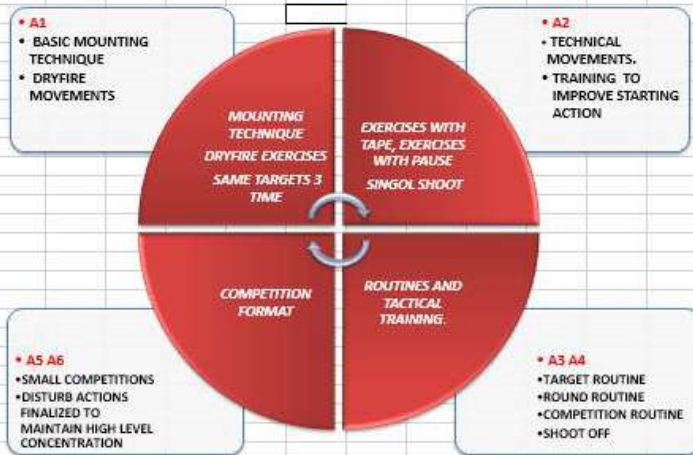
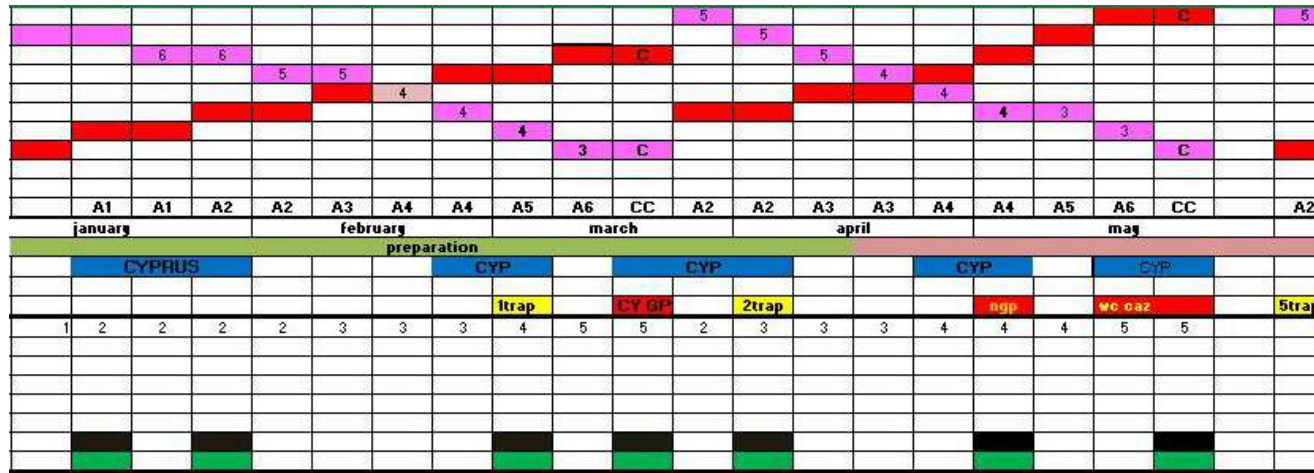


The diary tracks the progress of the training plan and analyses whether it is effective



It includes every athlete involved in the sessions and their individual progress

TRAINING DIARY GENERAL TRAINING PLAN



TRAINING DIARY MONTHLY TRAINING PLAN

TRAINING SCHEDULE BY HOUR AND ROUND JANUARY

| | 1° WEEK | | | 2° WEEK | | | 3° WEEK | | | 4° WEEK | | | 6° WEEK | | |
|---|------------|------------|--------------|------------|------------|--------------|------------|------------|--------------|------------|------------|--------------|------------|--------------|--------------|
| | Cycle 1 | | | Cycle 2 | | | Cycle 3 | | | Cycle 4 | | | Cycle 5 | | |
| | Phys. Hour | Ment. Hour | Pract. Round | Phys. Hour | Ment. Hour | Pract. Round | Phys. Hour | Ment. Hour | Pract. Round | Phys. Hour | Ment. Hour | Pract. Round | Phys. Hour | Ment. Hour | Pract. Round |
| | | | 6 | | | 13 | | | 20 | | | 27 | | | |
| | | | 7 | | | 14 | | | 21 | | | 28 | | | |
| 1 | | | 8 | | | 15 | | | 22 | | 6 | 29 | | | 6 |
| 2 | | | 9 | | | 16 | | | 23 | | | 30 | | | |
| 3 | | | 10 | | | 17 | | | 24 | | 6 | 31 | | | 6 |
| 4 | | | 11 | | | 18 | | | 25 | | | | | | |
| 5 | | | 12 | | | 19 | | | 26 | | | | | | |
| | | | | | | | | | | | | Phys. Hour | Ment. Hour | Pract. Round | |
| | | | | | | | | | | | | Total Month | 0 | 0 | 24 |

SPECIFIC TRAINING SCHEDULE

| | 1° WEEK | 2° WEEK | 3° WEEK | 4° WEEK | 5° WEEK |
|---|----------------|----------------|----------------|-------------------------------|--------------------------|
| | Practic Module | Practic Module | Practic Module | Practic Module | Practic Module |
| | 6 | | 13 | 20 | 27 |
| | 7 | | 14 | 21 | 28 |
| 1 | 8 | | 15 | 22 NR, DFM, 3XT, NR, 3XT, 3XT | 29 NR, T, T, L, SCP, SCP |
| 2 | 9 | | 16 | 23 | 30 |
| 3 | 10 | | 17 | 24 NR, DFM, 3XT, NR, 3XT, 3XT | 31 NR, T, T, L, SCP, SCP |
| 4 | 11 | | 18 | 25 | |
| 5 | 12 | | 19 | 26 | |

Practice module identification: A1 A2

| | | | | | |
|-----|---------------------|-----|-------------------------------|-----|-------------------------------|
| NR | normal round | DFM | dry fire mode | SCP | single cartridge with "pause" |
| 3XT | 3 time X TARGET | SL | single cartridge left target | | |
| C | Only central target | SR | single cartridge right target | | |
| L | Only left target | T | tape 10 mt faraway | | |
| R | Only right target | PR | normal round with "pause" | | |

| | | | |
|--------------------------------------|-------------------------------|--------------------------|--------------------------|
| SHOOTER: Savvides, milonas | LOCATION: Al ain wc | LAYOUT: a,b,c, | DATE: 16/04/13 |
|--------------------------------------|-------------------------------|--------------------------|--------------------------|

| | |
|---------------------------------------|-------------------------------------|
| OBJECTIVE OF TRAINING SESSION: | TRAINING METHOD AND ACTIVITY |
|---------------------------------------|-------------------------------------|

| | |
|--------------------------|--------------------------|
| OFFICIAL TRAINING | NORMAL ROUNDS |
| EVALUATION: | OUTCOMING METHOD: |

Savvides:
 First round 23 missed targets because of too long voice and late start.
 Second zero he performed a wrong gun mounting. He noticed it, but refused to open the gun and restart the routine.

Instead of focusing to find the right feelings and read the proper trajectories, he kept on searching for a better gun mounting position. Competition will start tomorrow and he does not seem very sure. This is his very first international competition and he is starting to feel pressured

Milonas
 First round 25
 2 second shots because of unproper contact between cheek and stock before calling.
 Second round 23. Missed last 2 targets (known targets)

He is shooting with incredible self-confidence. Just remind him to lengthen his voice before the target call

| | | | | | |
|--------------------------|---------|------------------|-----------------------|----------------|-------------------|
| Weather | | | Targets: | rounds: | Follow up: |
| sunny:x | Cloudy: | rainy: | | N:2 | |
| Performance rate: | | | training mode: | | |
| shooter:7 | Coach:7 | Competition mode | | | |

TRAINING DIARY DAILY TRAINING PLAN

TRAINING DIARY

SECTION 1 - OBJECTIVES



This part includes the volume and intensity of the training sessions and the areas of performance the coach needs to improve

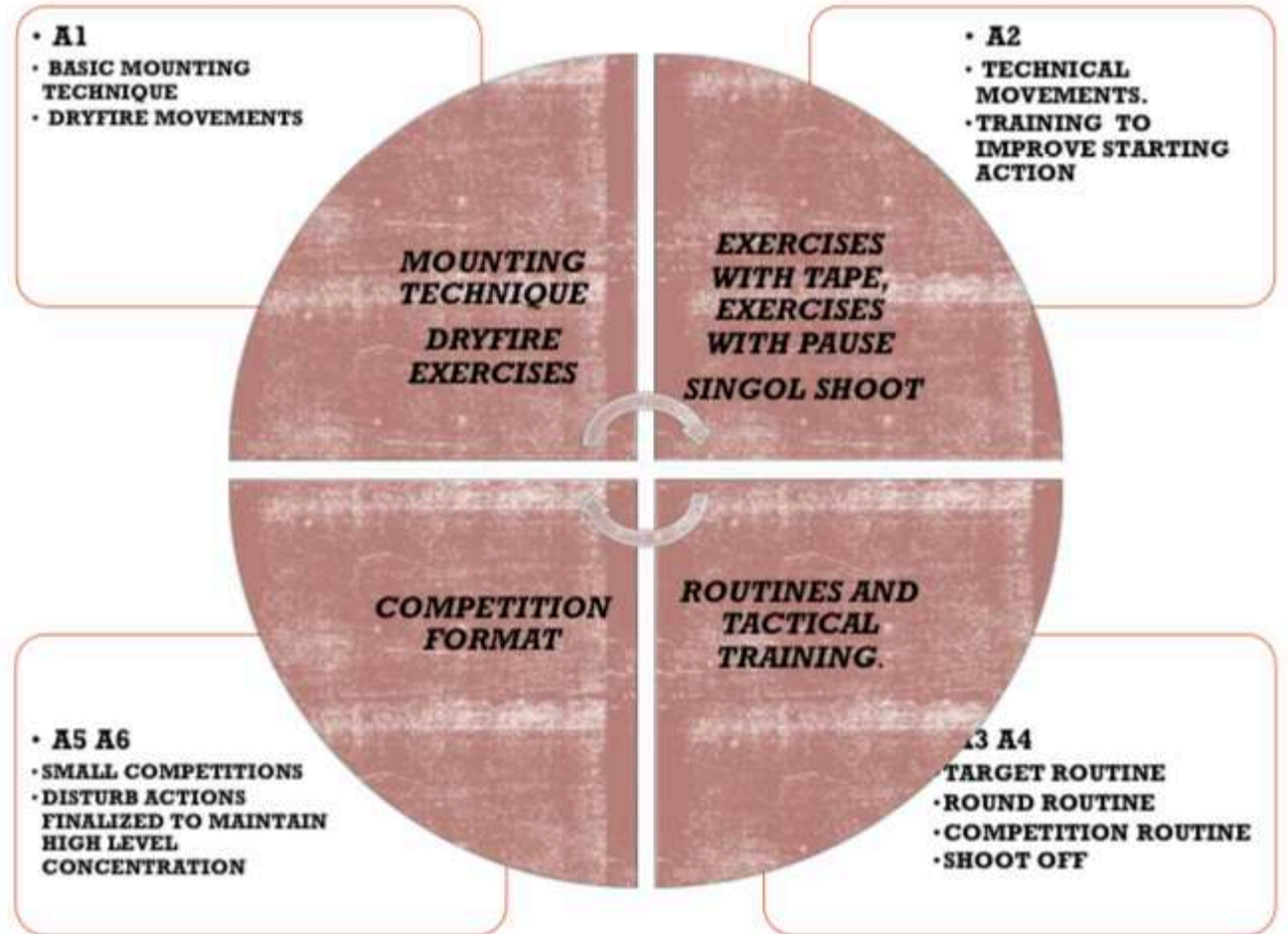


- Queste potrebbero essere:
- Maintaing performance
 - Correction of technical issues
 - Improvement of mental routines
 - Stress and competition mode
 - Improvement of technical routines
 - Team building

| | | | | | | | | | |
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| A2 | A3 | A3 | A4 | A4 | A5 | A6 | CC | | A2 |
| april | | | | mag | | | | | |
| | | | | CYP | | | CYP | | |
| 2trap | | | | ngp | | | vo caz | | 5trap |
| 3 | 3 | 3 | 4 | 4 | 4 | 5 | 5 | | |
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TRAINING DIARY SECTION 2 - TRAINING METHODS

This is the part describing the type of exercise for each area of performance the coach assigns to the athletes



TRAINING DIARY

SECTION 3 - MICRO SESSION PROGRAMME

This part is divided by :

- Weekly training areas
- Daily training volume
- Specific type of exercise for each training session

| TRAINING SCHEDULE BY HOUR AND ROUND JANUARY | | | | | | | | | | | | | | | |
|---|------------|--------------|------------|------------|--------------|------------|------------|--------------|------------|------------|--------------|-------------|------------|--------------|----|
| 1° WEEK | | | 2° WEEK | | | 3° WEEK | | | 4° WEEK | | | 5° WEEK | | | |
| Cycle 1 | | | Cycle 2 | | | Cycle 3 | | | Cycle 4 | | | Cycle 5 | | | |
| Phys. Hour | Ment. Hour | Pract. Round | Phys. Hour | Ment. Hour | Pract. Round | Phys. Hour | Ment. Hour | Pract. Round | Phys. Hour | Ment. Hour | Pract. Round | Phys. Hour | Ment. Hour | Pract. Round | |
| | | 6 | | | | 13 | | | 20 | | | 27 | | | |
| | | 7 | | | | 14 | | | 21 | | | 28 | | | |
| 1 | | 8 | | | | 15 | | | 22 | | 6 | 29 | | 6 | |
| 2 | | 9 | | | | 16 | | | 23 | | | 30 | | | |
| 3 | | 10 | | | | 17 | | | 24 | | 6 | 31 | | 6 | |
| 4 | | 11 | | | | 18 | | | 25 | | | | | | |
| 5 | | 12 | | | | 19 | | | 26 | | | | | | |
| | | | | | | | | | | | | Phys. Hour | Ment. Hour | Pract. Round | |
| | | | | | | | | | | | | Total Month | 0 | 0 | 24 |

| SPECIFIC TRAINING SCHEDULE | | | | | | | | | |
|----------------------------|----|----------------|--|----------------|--|----------------|-------------------------------|----------------|-----------------------|
| 1° WEEK | | 2° WEEK | | 3° WEEK | | 4° WEEK | | 5° WEEK | |
| Practic Module | | Practic Module | | Practic Module | | Practic Module | | Practic Module | |
| | 6 | | | 13 | | | 20 | | 27 |
| | 7 | | | 14 | | | 21 | | 28 |
| 1 | 8 | | | 15 | | | 22 NR, DFM, 3XT, NR, 3XT, 3XT | 29 | NR, T, T, L, SCP, SCP |
| 2 | 9 | | | 16 | | | 23 | 30 | |
| 3 | 10 | | | 17 | | | 24 NR, DFM, 3XT, NR, 3XT, 3XT | 31 | NR, T, T, L, SCP, SCP |
| 4 | 11 | | | 18 | | | 25 | | |
| 5 | 12 | | | 19 | | | 26 | | |

| Practice module identification: A1 A2 | | | |
|---------------------------------------|---------------------|-----|-------------------------------|
| NR | normal round | DFM | dry fire mode |
| 3XT | 3 time X TARGET | SCL | single cartridge left target |
| C | Only central target | SCR | single cartridge right target |
| L | Only left target | T | tape 10 mt faraway |
| R | Only right target | PR | normal round with "pause" |

TRAINING DIARY

SECTION 4 - SESSION EVALUATION

This part is designed for the evaluation of the individual training session:

- Have the assignments been carried out?
- Which approaches did not work and why
- Evaluation of mistakes and causes
- Session and technical performance ratings

| | | | |
|---|-------------------------------|--|--------------------------|
| SHOOTER: Savvides, milonas | LOCATION: Al ain wc | LAYOUT: a,b,c, | DATE: 16/04/13 |
| OBJECTIVE OF TRAINING SESSION: | | TRAINING METHOD AND ACTIVITY | |
| OFFICIAL TRAINING | | NORMAL ROUNDS | |
| EVALUATION: | | OUTCOMING METHOD: | |
| <p>Savvides: First round 23 missed targets because of too long voice and late start. Second zero he performed a wrong gun mounting. He noticed it but refused to open the gun and restart the routine.</p> | | <p>Instead of focusing to find the right feelings and read the proper trajectories, he kept on searching for a better gun mounting position. Competition will start tomorrow and he does not seem very sure. This is his very first international competition and he is starting to feel pressured</p> | |
| <p>Milonas First round 25 2 second shots because of unproper contact between cheek and stock before calling. Second round 23. Missed last 2 targets (known targets)</p> | | <p>He is shooting with incredible self-confidence. Just remind him to lengthen his voice before the target call</p> | |

TRAINING DIARY

SECTION 5 - RATE THE SESSION

- Considers all the factors that have an impact on the performance of your shooters :
 - Technical, mental, tactical, weather condition
- Helps to quickly identify good and bad sessions through:
 - Diary consultation
 - Resulting method

| | | | | |
|--------------------------|---------|------------------|-----------------------|----------------|
| Weather | | | Targets: | rounds: |
| sunny:x | Cloudy: | rainy: | | N:2 |
| Performance rate: | | | training mode: | |
| shooter:7 | Coach:7 | Competition mode | | |

TRAINING DIARY

SECTION 6 - FOLLOW UP WORK

- This part helps to identify areas to work on in the following sessions
- It highlights the most beneficial activities and what to do to repeat them.
- It tracks the planning for additional workout to reinforce a specific aspect

| Follow up: |
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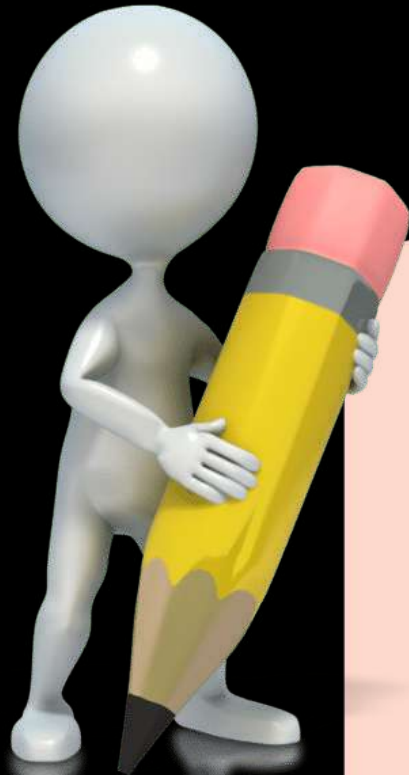
Write both positive and negative things:

- Be honest with yourself
- Take the required time to write
- Be concise but don't forget anything important
- Only enter useful information
- Write every time you go out in the field



TRAINING DIARY SUMMARY

THE COACH DIARY AT THE COMPETITION

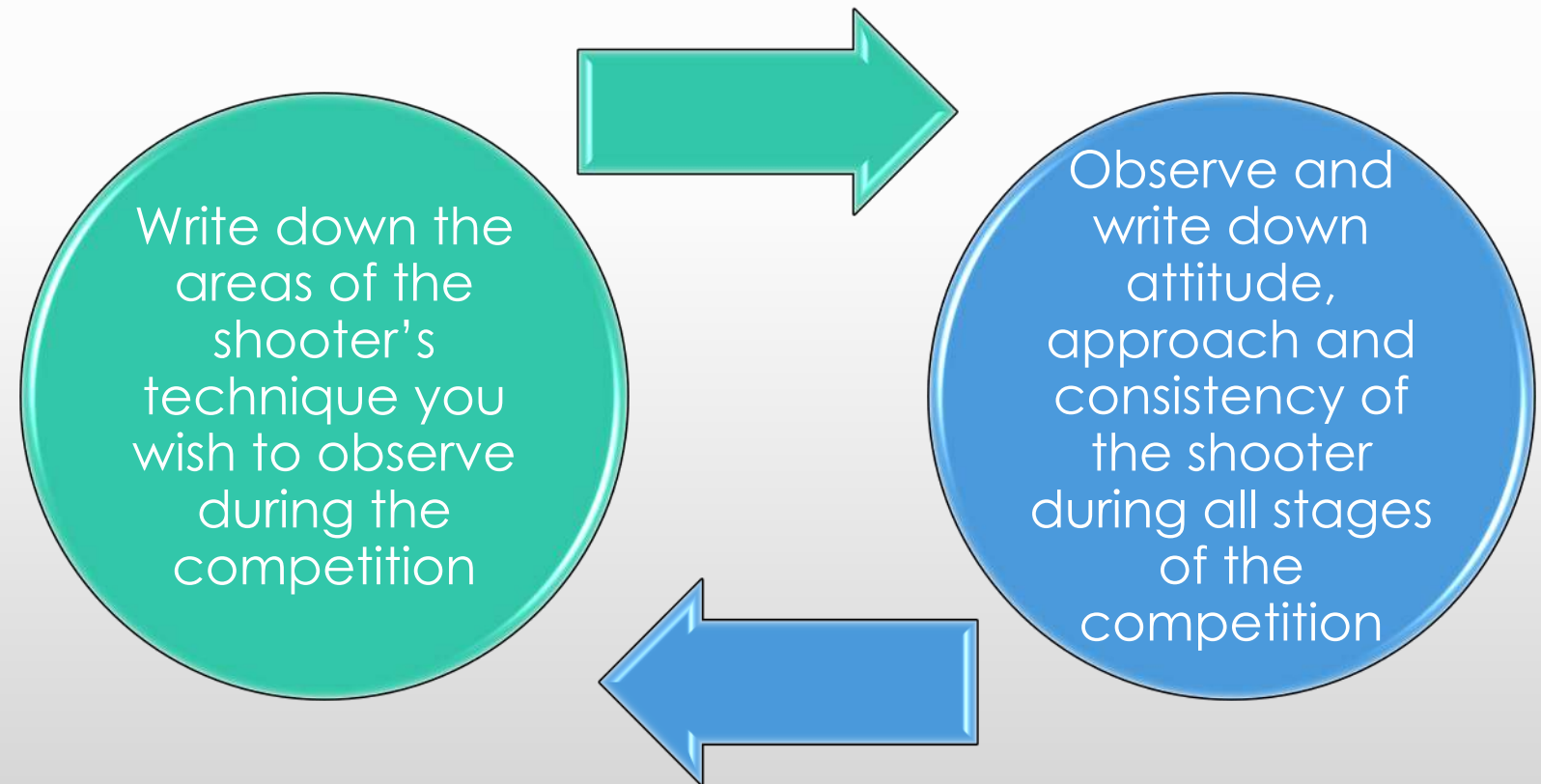


It can be used to list the details of each individual competition:

Write down the patterns or the setting of the targets and the features of the field

Performance goals and competition goals to assess

THE COACH DIARY AT THE COMPETITION



THE COACH DIARY SECTION 1 - COMPETITION OUTCOME & RESULTS

The coach acquires tactical knowledge during the competition:

- Weather conditions, layout, colour of the lenses...

How all this factors influenced the athletes

- Shooters attitude/approach
- Scores per round, missed shots, second barrell
- What worked well, what did not



This is a debrief section listing the areas of work the coach has observed and that require further work before the next competition:

- Technical, tactical and mental situations to take into account
- What needs to be changed in the view of the next training session/competition
- Which elements of the plan should be kept

| GOALS: | FOLLOW UP: |
|--------|------------|
| | |
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THE COACH DIARY

SECTION 2 - COMPETITION FOLLOW-UP

THE COACH DIARY COMPETITION SESSION - SUMMARY



You will benefit from the diary by entering only relevant information



Be honest in your evaluation and analysis



Create a sample diary you can keep



Believe in its worthiness, you will need it



Take your time to think before writing



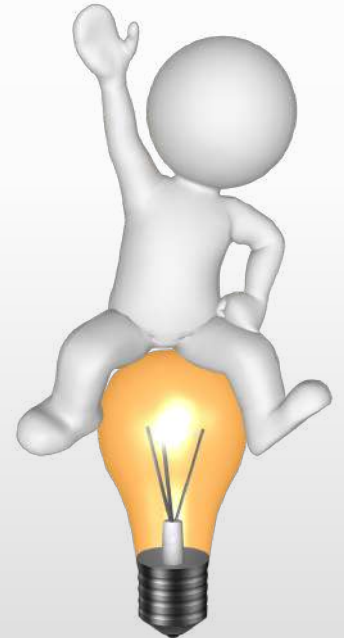
Always use it



Once completed do not throw it away

SHOOTER DIARY

- The diary can be used to list the details of the competition plan or training sessions
- The diary is a personal journey of the athlete
- Only useful information must be written down:
 - Take note of the patterns or target settings and the range features
 - Take note of weather infos regarding the training session or the competition day
 - Performance goals and competition goals for a specific training session or event the shooter wants to achieve



SHOOTER DIARY



The areas the shooters wishes to work on during the competition

The shooters may rate his own attitude, approach, consistency during all phases of the competition or training session

Follow up for the coming training session or competition

SHOOTER DIARY

SECTION 1 - COMPETITION OR TRAINING SESSION OUTCOME & RESULTS

The athlete acquires tactical knowledge during the competition or training:

- Weather conditions, layout, colour of the lenses to be used ...
- How all this factors influenced the athlete
- Shooters attitude/approach, scores per round, missed shots, second barrell
- What worked well , what did not



SHOOTER DIARY

SECTION 2 FOLLOW-UP

This is a debrief section listing the areas of work the shooter has observed and which require further work before the next competition:

- Technical, tactical and mental situations to take into account
- What needs to be changed in the view of the next training session/competition
- Which elements of the plan should be kept



| GOALS: | FOLLOW UP: |
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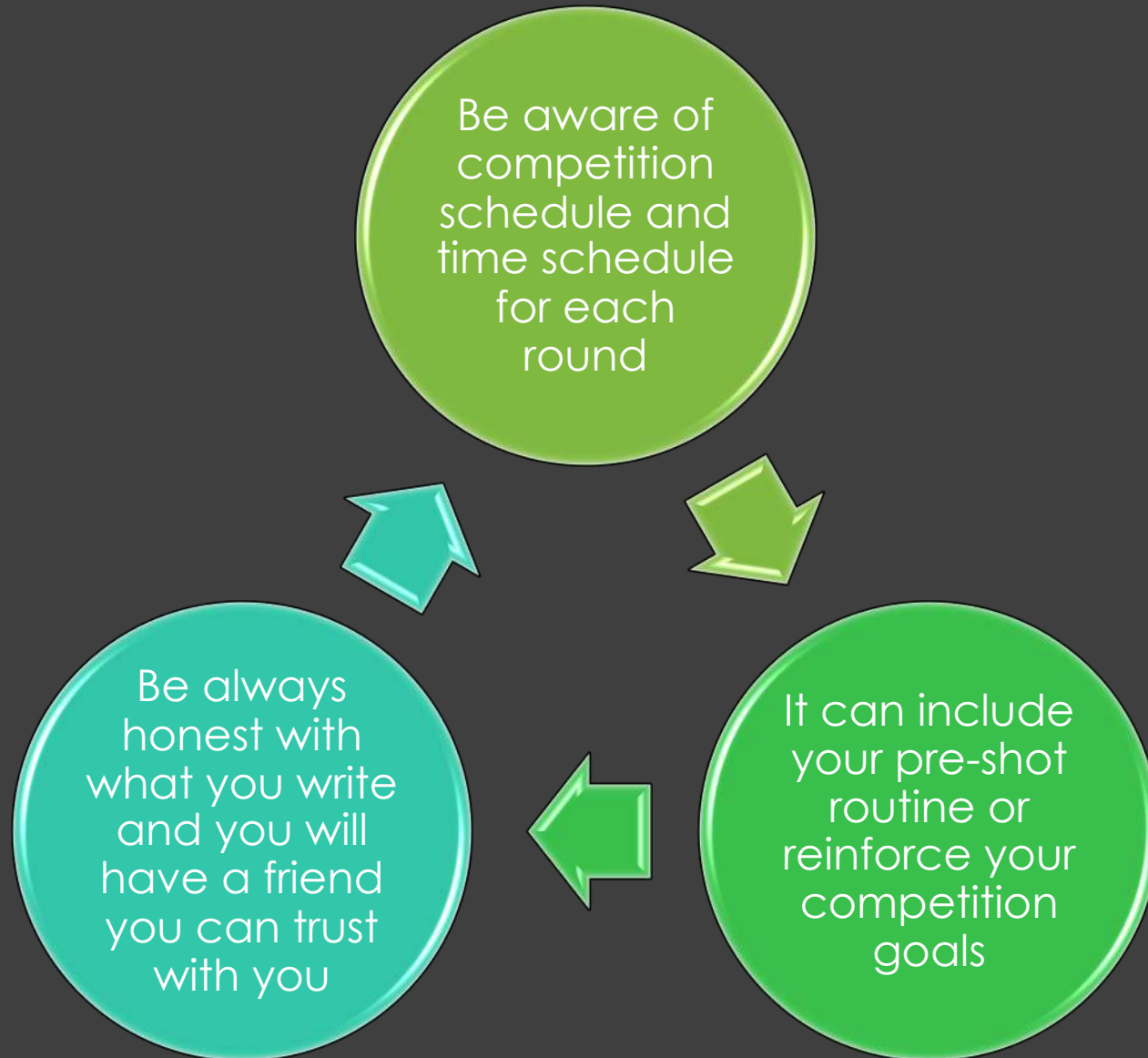
SHOOTER DIARY SUMMARY

The diary can also be used to help the shooter to remember specific information useful during competition:

Note about food: what and when to eat

Type of music to listen to after waking up, during pre-round routine to get into the right mood, when you are stressed...





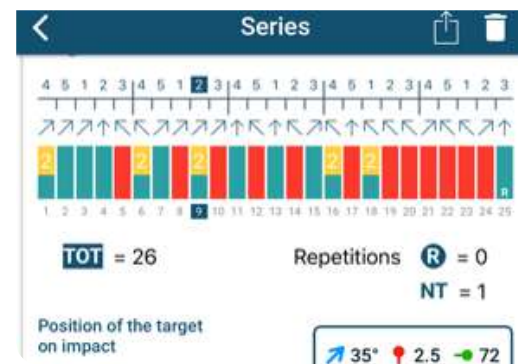
SHOOTER DIARY SUMMARY

VIDEO EQUIPMENT

It helps to identify the technical mistakes

It helps to compare the technical improvements

It helps to increase and measure performance

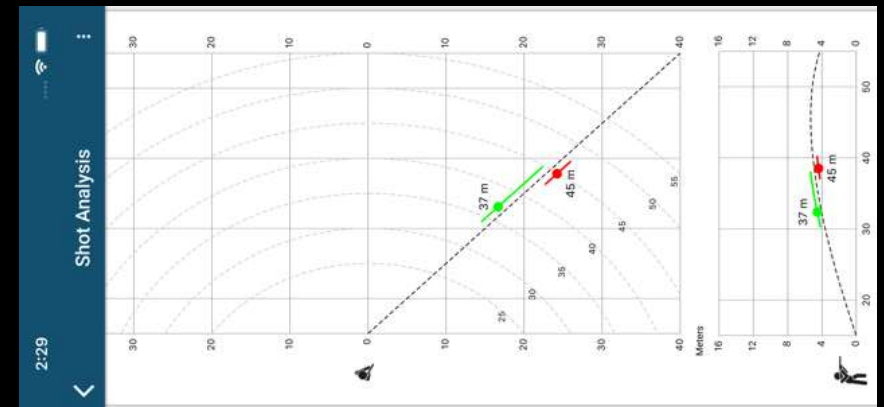


VIDEO EQUIPMENT

It helps to record visual information about

- Technique
- Environment
- Clay target path

It helps the athlete to refresh his own technique



USE OF VIDEO EQUIPMENT

- Slow motion and high resolution (or fast) recordings can help to understand more clearly the points to be improved
- Specific software may support the coach to get easier and faster infos and statistics about shooter's mistakes
 - Reaction time, percentage of broken targets per each station/pattern



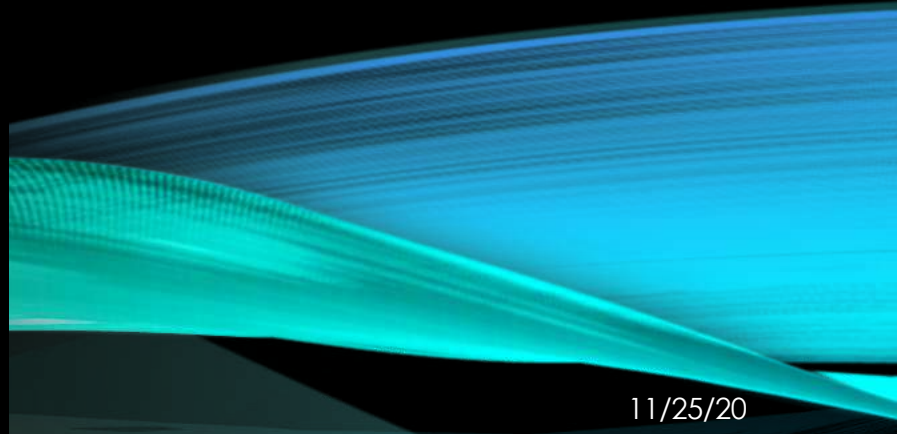
VIDEO EQUIPMENT

- Increase and measure of performances
- Increase and measure of body's activity (heart rate variability)
- Supports athletes to be more aware about themselves in competition and training





VIDEO ANALYSIS



VIDEO ANALYSIS



LIMITS



- No tridimensional movement
- Bidimensional analysis
- Point of view
- Measurement
- Details

ADVANTAGES



- Qualitative analysis
- Timing analysis
- Help for shooters
- Help for coaches
- Details



VIDEO ANALYSIS

VIDEO ANALYSIS



VIDEO ANALYSIS



VIDEO ANALYSIS





VIDEO ANALYSIS

AMMO TESTING

Testing the ammo is a personal and customized job according to:

- Type of discipline
- Type of barrels (fix chokes, adjustable chokes)
- At what distance the shooter shots first and second barrel (shooting speed of the shooter or speed of the clays)
- Types of clays (ecological, with prebroken, flash)
- Weater conditions and altitude (humidity and altitude affect the pattern)

It can be carried out at the factory or at the pattern board

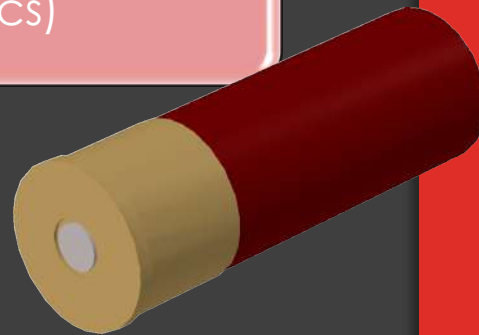


Decide what you want to test in the ammo (shooting the final, velocity of the shooter, found proper pattern at station 1 and 7 coming target in skeet..)

Decide at what distance the shooter will shot

Decide what chokes will be used, if adjustable chokes are available

Choose different brand or type of cartridges (25 or 50 cartridges min required for accurate statistics)



AMMO TESTING

AMMO TESTING

Using pattern board to detect:

- Height of the pellets
- Density of the pellet
- Percentage of the distribution on the board
- Penetration power of the pellets.

Use of software from the manufacturing companies to measure cartridge speed and pressure.

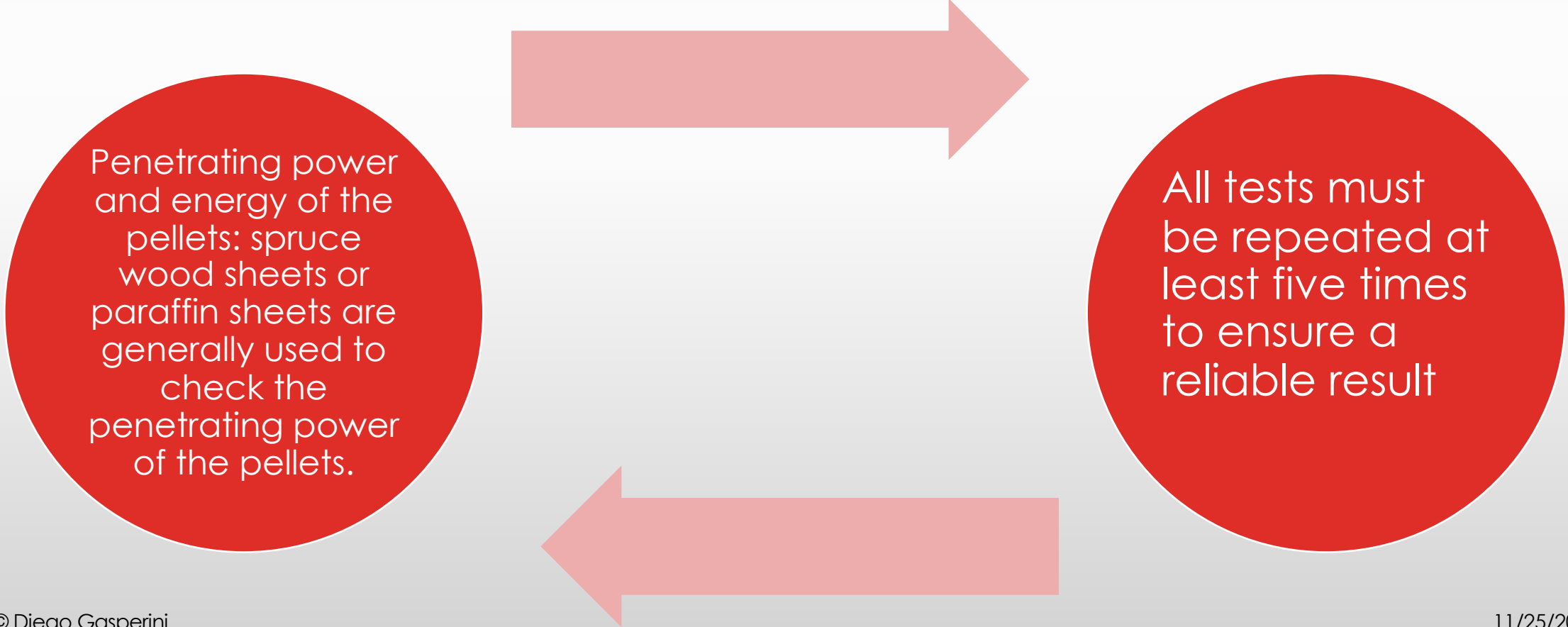
AMMO TESTING STEPS

Open 5/10 cartridges to visually assess its quality and the consistency of the powder/lead dosage

It is important to check:

- Sphericity of the pellets, hardness of the pellets, quantity of antimony, type of powder used (progressive, double base...), type of wadding used

AMMO TESTING STEPS



Penetrating power and energy of the pellets: spruce wood sheets or paraffin sheets are generally used to check the penetrating power of the pellets.

All tests must be repeated at least five times to ensure a reliable result

AMMO TESTING DISTANCE FROM THE PATTERN BOARD



Trap: first barrel 31-32 meters, second barrel 35-36 meters

Skeet: first barrel 16-17 meters, second barrel 24-25 meters

In the case of testing for the finals, given the existence of inverse double barrels, for the second barrel the distance must be 28-29 metres

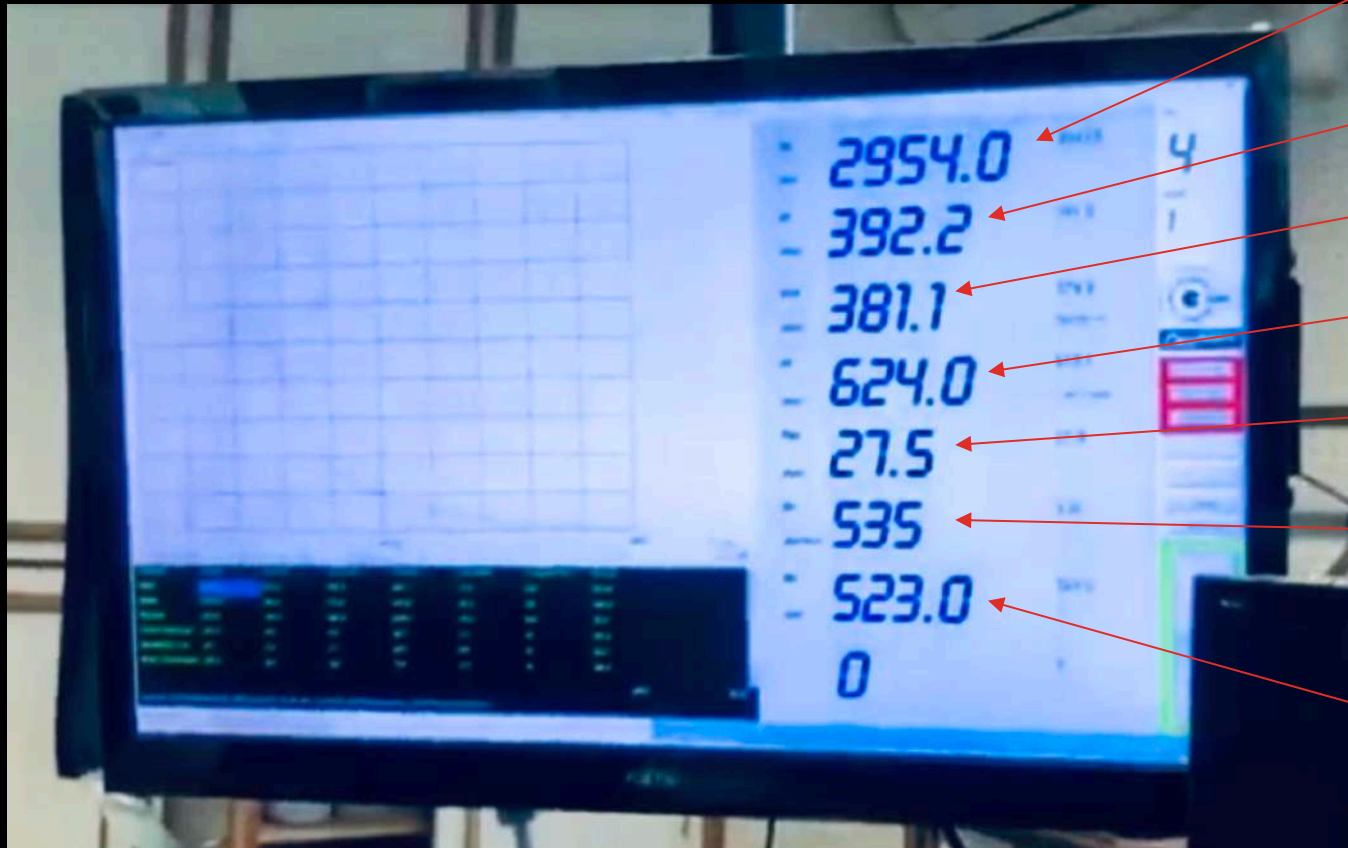
AMMO TESTING IN FACTORY

Use of multiple
manometer barrel to
calculate:

- Pressure
- Speed
- Cartridge's barrel time for different calibers of shotgun



AMMO TESTING IN FACTORY ¹⁴⁸



Barrel time: it shows the time between the contact of the firing pin with the ignition and the exit of the wadding mass - live flying pellets

Speed V1: (at 1 mt) it shows the energy of the newly fired cartridge

Speed at 2,5 mt: speed officially adopted to measure pellet ammunition

Pressure value: measured in bar,

PBO: (pressure at the brake) the amount of pressure of the propulsive gases left at the end of the barrel

Complete: it shows the thrust work carried out by the propulsive gases, therefore the charge of powder

Delay: time calculated from the moment of ignition, therefore from the explosion of the ignition to reaching 10/100 of the maximum pressure. It shows whether combustion takes place in the correct timing, within the standards.