Front and inward rotation

At opposed to back and reverse the ways of optimising front and inward rotation are significantly different on springboard and platform. This is because of the different arm position.

On platform they are already in place before the take-off, i.e. behind the ears and ready to throw. In other words, the arm-swing-and-reach is just absent or at least doesn't require any attention.

On springboard however, the arm-swing-and–reach plays vital role in producing the right rotation.

Accordingly, the principles that work for producing rotation will be different for springboard and platform.

Springboard. It is well known that in order to produce front rotation on springboard the lean or driving the centre of mass out of the body is absolutely necessary. A so called "*billiard ball effect*" is working here. As our goal is not *just* to produce rotation but to make it in a way of the rational technique, the following key points should be strictly considered:

1. **Arm-swing**
2. **Posture**
3. **Extension**

1. After the hurdle is completed properly and the take-off is in process, the arm-swing should be complete (to behind the ears) before the throw begins. An incomplete arm-swing (“*under reach*”) can increase lean and can reduce effectiveness of the throw.

2. There should be a closed (ribs-in) chest position, ‘rounded back’ with bottom in throughout the throw, and the head should remain still and neutral throughout. Arms should be straight and narrow to maximise lever-length.

3. Hips, knees and toes should be completely extended and pointed as the feet leave the board, before the body adopts a tuck or pike shape. An

incomplete leg extension will reduce rotation velocity and accordingly the height of the dive.

Platform. On platform front rotation was traditionally produced by using two main instruments (tools): the "stopper" and the "lean."

This way satisfied the diving needs until the new era emerged – *the era of the four-and-a-half-somersault*; a new approach had to be found and new training methods had to be embedded.

Those first started doing the four-and-a-half (the Australians, the Chinese, the Russians) came up to conclusion that

front rotation can be produced more efficiently without or almost without the *lean*, i.e. using only the *"stopper"* accompanied with a powerful throw down and in.

*<u>Definition:</u> "**the stopper"** – is a transfer of translational motion of the body during running up into rotary motion after the take-off*

Using the "stopper" the body should be upright enough that the centre of mass is within (or close to) the body mass at the start of the throw. There must be a pelvic rotation to turn the hips in and create a flat lower-back. Lean and stuck out bottom makes it more difficult to get

a tight shape, produce a proper rotation velocity and inhibits accurate opening.

When correct "stopper" is completed (running up was fast enough, arms are behind the ears, chest in, bottom in, the body is upright and legs are completely extended at take-off), the throw should powerfully go through-forward-down-and-in.

Even though there is no either running up or "stopper" in inward rotation on platform the same main principles should be applied here:

- arms behind ears
- posture: chest in, flat lower-back
- chin goes down and in along with the arms during throw

- complete hips, knees and feet extension during take-off