

In Proceedings 27th

first somersault, two twists in the second somersault, and one twist in the third somersault. Such phasing of the twist gives rise to the term “full – double full – full” identifying this skill (Figure 2).

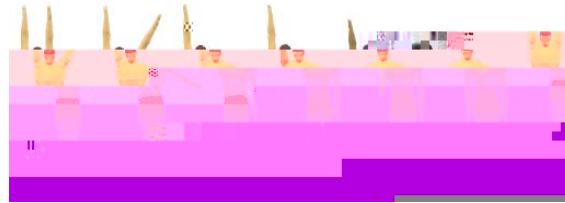


Figure 1: Left arm lowered to the side followed by right arm lowered to the front.



Figure 2: A “full – double full – full” produced using the arm sequence depicted in Figure 1.

The second arm sequence comprised a lowering of the left arm to the side followed by a lowering of the right arm to the side (Figure 3). The lowering of the left arm produced a 4° tilt of the body away from the vertical somersault plane and initiated the twist in the triple somersault. The movement of the right arm was timed to occur at around the half twist position so that the tilt increased further to 9° . This allowed the completion of a “full – double full – full” generally similar to that shown in Figure 2.

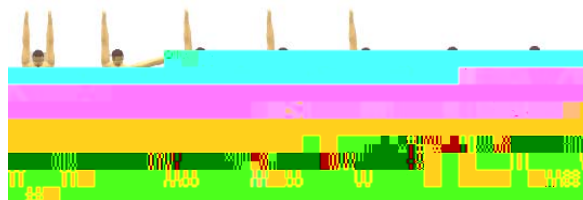


Figure 3: Left arm lowered to the side followed by right arm lowered to the side.

The third arm sequence comprised a lowering of the right arm across the body, followed by a double arm switch, and finally a lowering of the right arm down the front (Figure 4). The initial movement of the right arm resulted in little tilt which increased to 9° with the double arm switch and increased further to 12° with the final lowering of the right arm to the front around the quarter twist position. This was sufficient to allow the completion of three twists in the second somersault resulting in a “full – triple full – full” (Figure 5).

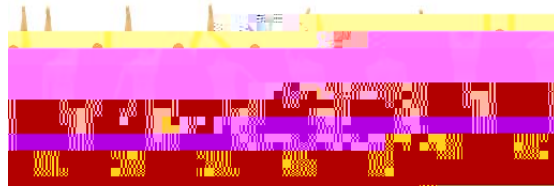


Figure 4: Arm action in the third simulation: right arm lowered across the body to the side followed by double arm reversal and right arm lowered to the front.

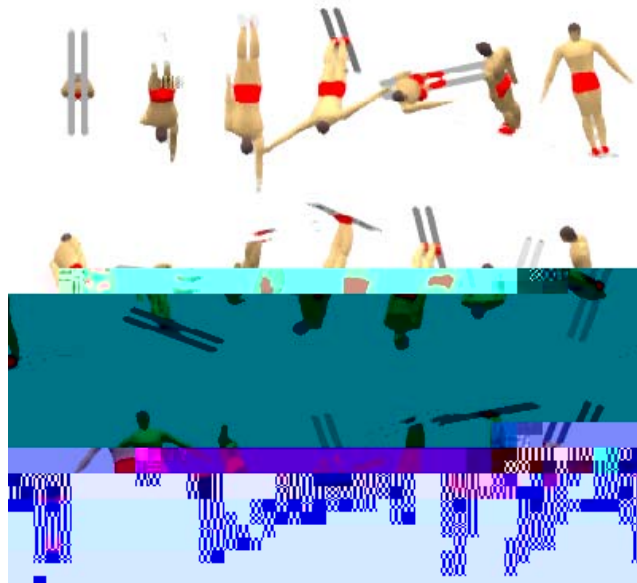


Figure 5: A “full – triple full – full” produced using the arm sequence depicted in Figure 4.

A lead up skill for this third simulation was produced using the same sequence of arm movements to initiate the tilt and twist but using a more abducted arm position in the second somersault so as to obtain two twists rather than three. This resulted in a “full – double full – full” with wide arms (Figure 6). The advantage of practising such a lead up skill before attempting the five twists is that it allows a gradual approach in the learning process in which shortcomings can be adjusted by changing the arm position. The amount that the arms can be abducted whilst twisting also gives a measure of the twist potential.

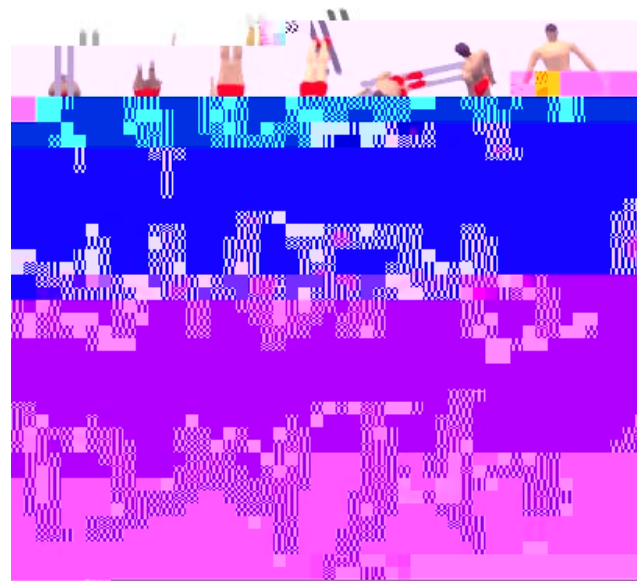


Figure 6: A “full – double full – full” lead up skill using the same arm sequence as in Figure 5.

DISCUSSION:

Three arm sequences were investigated for their ability to produce twist in the airborne phase of triple somersaults in freestyle skiing. Sequences comprising the lowering of one