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## Technical Notice 127B

### Guidelines for Unconsciousness due to Strangulation in Judo Practice and Contest

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**In response to questions by Robin Otani – President.**

#### **Unconsciousness from strangulation**

- 1) Whilst a person is visually conscious there is no danger threat.
- 2) At the point of becoming unconscious, the eyes-lids will flutter, the body and face will become limp and totally inactive. Contestants however will normally continue breathing.

Those in supervision must be careful. There are several factors to look for to ensure an opponent is fully conscious. Consciousness is a neurological observation. Perhaps it is easier to define what is unconscious.

In the unconscious state, there is no response to stimulation or pain, there is a lack of what is perceived as normal muscle movement (a person having an epileptic fit are moving their muscles but not in a normal way). There is an absence of normal speech and the eyes are closed and not responsive. The person is still breathing and they will still have a circulation however. Should those in supervision wait for this, the opponent is significantly unconscious and could be in significant danger.

So, those in supervision are looking for the first signs of 'sliding' down this slope. It is best described as an opponent unable to defend them self. A normal reaction to attack is to defend. This is higher neurological function. The strangle is on, the lock is on, the throw is on, and the opponent is behaving in a normal way to defend. The first sign that all is not well is that the opponent is not responding how those in supervision think they should be responding. The reactions are slower, that normal bright response is lacking something, the vocal noises are not perhaps quite right, the eye lids are perhaps droopy, the muscle tension is reduced. This is all very subtle however the opponent is drifting into a situation where they are struggling "from a conscious level" point of view, to defend them self. So, on the one situation, the choke is on, none of the above features are occurring, the opponent is making a normal conscious response to get out. Those in supervision allow the contest to continue. In contrast, the choke is on, the eye lids are fluttering, the resistance to the choke is a bit weak, the legs are a bit limper than they would like. The normal defence reaction is gone. It is only a matter of time now as they descend the slope into true unconscious. Those in supervision seeing the progressive deterioration must step in and stop the contest for the sake of the opponent. The conclusion to the contest is not in doubt. The opponent cannot defend "normally" any more. The decision of the official is that "if I allow the contest to continue, I believe the opponent is at risk of harm because the opponent is now in a position of not being able to defend them self in a normal conscious way".

It is very subtle.

- 3) In a Judo Contest suffocation or blocking of airways is almost impossible and certainly takes a minute (60 sec) or two to be effective.  
Blocking the airway prevents oxygen reaching the brain. The best example is holding your breath. You do not immediately pass out when you hold your breath. It takes time. Suffocation or airway blocking is in effect holding your breath. The airway however is protected by the larynx, a cartilage structure at the top of the

throat with rings of cartilage in the wall of the main windpipe or trachea. These structures would in effect need to be crushed requiring some considerable force. For true suffocation to occur however, a relatively long period must pass. Children lack fully formed cartilage rings and their windpipe or trachea is more likely to be damaged, hence the technique of choke in children is not taught as a competition technique.

- 4) Strangulation to unconsciousness mainly comes from restriction of blood to the brain. If the technique is applied correctly this can be effective in seconds.

There are two main arteries in the neck, one each side called the carotid arteries. They lie quite superficial in the neck; indeed, you can feel your own carotid arteries if you press lightly behind your larynx. In contrast to the windpipe or trachea, the wall of the carotid artery is thinner and easily compressed. If compressed, blood flow through the carotid ceases and unconsciousness occurs in a matter of seconds. So why don't you get a stroke? The reason is that there are a couple of arteries that run through the bony cervical spine at the back of the neck called the vertebral arteries supplying blood to the back part of the brain.

So, how can those in supervision spot which is being applied? A "choke" pressing on the carotid artery has its effect in seconds - if correctly applied, the opponent probably will not even have time to put up a resistance and the effect will be profound unconsciousness. The opponent will probably not even have time to submit before they pass out. A "choke" crushing the trachea or larynx needs considerably more pressure and a vigorous defence by the opponent will ensue possibly for a time before the opponent recognises the futility and submits. Those in supervision therefore need to step in early for the former and give time for the opponent to escape in the latter.

- 5) If the strangle is not 'tight' however, a partial restriction of blood will take up to around 20 seconds to be effective. An effective strangle is as effective as turning a tap off. No blood flows. But I am sure we all have taps in our house that drip; water does get thru as does blood. Unconsciousness is not immediate. The opponent will recognise it coming on and resist, the attacker will recognise that the technique is not effective and will change or alter the application to try and gain success. Once again, if this is successful, unconsciousness rapidly follows. A clever opponent recognising what may be happening may insert their hand between their throat and the attacker's attempt at a choke and thereby protect their carotid.

- 6) Screams, gasping noises, red face and normal physical movements and resistance would not normally be a reason for those in supervision to stop the contest. However if those in supervision perceive another reason for this i.e. hand or lapel over the face/chin or pressure being applied to the vertebrae of the neck or back, then the contest should be stopped.

Consciousness versus unconsciousness is described in the first section. Screams can be a normal high level action of consciousness. Gasping may be due to pressure around the neck. Red faces are due to the lack of blood flowing back to the heart in the very weak low pressure veins. Physical resistance is the opponent making a conscious attempt to defend. By themselves, these do not indicate a reason to stop the contest. There are techniques however that are illegal, not because the application of the technique is dangerous, but because the consequence of the action following the technique is dangerous or even life changing. Those in supervision are therefore on the lookout for the application of illegal techniques on an otherwise conscious opponent to prevent the consequences of the technique being applied. This of course applies both ways and a good example of this is the drop seoi nage that children try and copy. Observation by those in supervision is therefore so important.

- 7) In the event those in supervision cannot see the strangled face then they must look to see if the body becomes limp and inactive.

We are taught at medical school to examine the whole patient. Those in supervision must do the same. They must be aware of every visible clue and to use all their senses. Not hearing the silent opponent is sometimes more worrying than hearing the noisy one. Looking for the limp leg or arm; feeling the limp arm or perhaps that the arm is not as tense as it perhaps should be; recognising that the opponent is perhaps not so actively fighting as there were a second ago but also recognising that the opponent may be summoning up a huge muscular effort to move the attacker. Those in supervision will recognise that a significant strangle may be being applied and that their other observations suggest unconsciousness may be a cause for intervening.

- 8) In the event of uncertainty, those in supervision must stop the contest and make their judgement accordingly. However in the case of judging 'consciousness or unconsciousness', the designated official has the sole responsibility to, act alone and quickly, to make an immediate decision, without consultation with other officials. The prime aim is both for the safety of the opponent and trauma welfare of the attacker. The decision not to allow a situation that is dangerous to continue overrides any criticism, that stopping the contest was premature. However controversial it may be, safety must always come first. There is usually a provision and opportunity for all those in supervision to discuss the situation before declaring the result of the contest..

- 9) If a person goes unconscious for a few seconds this will not cause damage in a healthy person. The risk to a healthy person for a few seconds is minimal. The emphasis is on healthy. Children are at risk, and perhaps the older person is potentially at risk. What is the older person? It is very clear that people can develop atheromatous (or cholesterol) plaques in their carotid arteries leading to either transient strokes (TIA or Transient ischemic attack) or a stroke itself. How much of this is at risk I am not sure however I have never heard of any such event occurring indeed from my understanding, the Kodokan equally hold this view.
- 10) However total restriction of blood to the brain for 10 or more seconds will result in some brain cell damage and longer periods could result in death or other life changing event. Those in supervision must act and step in soon. Those in supervision should develop in their minds the features of normal conscious behaviour and abnormal behaviour. In this way those in supervision will recognise, as obvious, an opponent who is unconscious and at risk of serious harm. The attacker will often continue unless they are stopped by those in supervision. If those in supervision are worried, then the competition should be stopped.

### **Airway obstruction (the choke)**

Slow, struggling, will fight to get out, require a great deal of pressure, visually looking to see where the lock is being applied (front of the throat), going blue is a late feature but to start with is the appearance of a struggle to breathe, red in the face, bulging eyes. An appearance of panic and desperation as airway obstruction comes on. This must be seen as a legitimate technique as it leads to submission or time out as the opponent cannot escape the hold. The most important observation those in supervision need to make is to ensure that the windpipe is not being physically crushed as this requires POINT contact, direct pressure to the front of the throat, literally in the middle requiring a large amount of frontal force. The use of the flat of the forearm or gi across the throat is unlikely to crush the trachea snapping its cartilaginous rings but if held long enough will produce slow unconsciousness.

### **Arterial obstruction (the strangle)**

Rapid onset, like a tap being turned off. The body goes limp, there is no struggle, there is no attempt at defence. The referee must recognise that there may be no airway obstruction, the lack of struggle to get out. Instead it is virtually instantaneous - unconsciousness. This is all to do with arterial compression. This then leads to the problem needing immediate action. Because there is no defence, the contest is over and continuation of the strangulation technique will lead to frontal brain damage. Those in supervision must be aware of these differences;

a) allowing the restriction of air entry to control their opponent in the struggle to escape.

and

b) that of the arterial tap being turned off (the lack of response, the sudden onset limp body over a couple of seconds).

Those in supervision must recognise these differences and intervene where necessary. However as soon as the arterial tap is turned off, once released, the arterial tap is turned on again, consciousness returns. For the opponent, nothing may have appeared to have happened. There was no struggle and the opponent may argue that there was never any danger, that they were in control all the time whereas to the outside observer, unconsciousness intervened. This limpness can be subtle and this is where it can be difficult to be certain. Is it that the opponent is relaxing to create an explosive manoeuvre to get out or is it not. The answer lies in the presence or absence of muscle tone. The lack of muscle tone from strangulation leads to a total flaccidity of all muscle groups. Those in supervision must therefore look for the response of the opponent to the strangulation. Is what is seen a build-up response to try to escape from the strangle, or is it NO response at all?

**The bottom line is safety and if the those in supervision believe danger is involved, then they must intervene.**

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