

2. Compression

Compression in a nutshell

Compression is a simple method of self-deliverance that relies on no complicated equipment and does not require drugs. The main veins and arteries of the neck are compressed in such a manner that the pressure remains after the person has fainted. Fainting, and death, is a result of lack of oxygenated blood to the brain. It is very quick – fainting occurring within a minute and death following within a few minutes. (In rare cases, death may be accelerated by cardiac arrest after loss of consciousness.) One of the main methods of achieving compression is to use a tourniquet around the neck, carefully positioned so it does not obstruct breathing. Another method is to use continuous looping, and a third is the introduction of mechanical devices. Some momentary discomfort is possible, but brief, and can be minimized with careful forethought. Material can be planned for, or found at short notice. Compression can be used in situations of confinement, such as a hospital stay, or other emergency situations where there is no possibility of using helium or drugs.

Although it is essentially simplicity itself, roughly half of our workshop participants over the years were able to grasp the method properly and the other half struggling to understand the speed with which it must be accomplished to avoid a 'swollen' feeling. Note that published criticisms in books by another author were withdrawn when he studied the evidence. Readers are urged to go through this chapter several times to understand both the evidence and the application thoroughly.

Compression – key points

- >A ligature is used to apply pressure evenly around the neck, tight enough to compress the main arteries and veins, but not tight enough to interfere with breathing.**
- >The ligature is wide enough for comfort, but no wider (padding may be used).**
- >The ligature is placed high on the neck to avoid discomfort on the windpipe.**
- >Pressure is applied by tightening the ligature swiftly so that arteries as well as veins are compressed, leading to death of the brain from lack of oxygenated blood and destruction of the brain stem.**

Introduction

While helium might be a *preferred* way to go by the large proportion of right-to-die members,¹ we all know that there are possibilities of being surrounded by others or otherwise prevented from using a helium tank. Many of us will experience long periods in hospital before death. Some will be living with in-laws. Some may just find connecting the equipment too cumbersome, leave it too late, or not have anywhere to conceal it.

A favourite question I sometimes ask people at the start of workshops (held in the function room of a large hotel) is, if for some reason you decided that you wanted to draw your life to a close *now* and only had half an hour to get together everything necessary, could you do it? How would you do it?

After reading this chapter, *anyone* should be able to say 'yes.' At the end of the chapter, have a look around the room where you are reading this. Work out what you could use. If you were in hospital, what do you think you could use? If nothing comes to mind, could you get it from a 24hr service station or corner shop? Could you take it into hospital without arousing suspicion? The answer to all these questions should be 'yes.'

Unlike helium, there is less of a 'one-size-fits-all' about the compression method. In workshops, we experiment with different implements once we have got the principles. Find out what feels comfortable. But be clear: in spite of its great simplicity, the compression method should *not* be used as a cry for help. You can pass out very easily, and death follows. That you can accomplish this with just a piece of binding and

¹ Some organisations recommend it as the only method seriously to be considered.

Section 1: Last Acts: 2. Compression

something to tighten it with does not make it any the less lethal. (So the good news is: no expensive or cumbersome materials to buy!)

Some people will feel an aversion perhaps to doing anything so close to their personal sense of space. A band around the neck feels different to turning a tap at arm's length. Most people will keep helium as their number one preference and compression as their emergency, their 'Plan B.' But if you find yourself in a desperate situation (such as a nursing home from which you are not likely to be discharged, or bedridden in some other way), is it not better to be familiar with how to take matters into your own hands?

Main features

Compression provides a simple method of ending one's life that is not dependent on having previously-acquired equipment or drugs to hand. Properly done, there is little or no discomfort and it can be performed without arousing too much unwanted attention. The ease with which it can be achieved makes it suitable both as a mainstay method, but particularly also for emergencies should one become confined to a nursing home or hospital bed and lack complete privacy.

Death results from one of three causes:¹

- i) Pressure on the carotid arteries results in loss of consciousness and asphyxia as the brain is denied oxygenated blood.
- ii) Pressure on the jugular veins produces 'stagnant hypoxia' or massive reduction in the circulation of the blood – rather like a traffic jam. As blood is prevented from flowing away

¹ This is a simplified description. For a fuller explanation, please see Stapczynski J, Strangulation Injuries, *Emerg Med* 2010;31(17), (available online, www.emreports.com).

from the head, the pressure prevents fresh blood from flowing in (similar result as (i) above).

iii) Cardiac arrest due to the so-named 'carotid sinus reflex.' This is less likely than either of the above causes. Pressure is required for at least three to four minutes to produce cardiac arrest – occurring after loss of consciousness.

In all three processes, breathing continues normally until death. The term 'strangulation' in this context does not mean a throttling that interferes with breathing – something very unpleasant. It means a 'strangling' or cutting off of the *blood supply* to the brain. The pressure needed to strangle the windpipe is much greater and not needed for self-deliverance.

Concerns over the possible survival of the brain stem (which have occasionally been documented in rare non-suicidal compression cases involving healthy young subjects) have sometimes prompted suggestions for the use of a plastic bag in conjunction with this method. A small bag, such as that described for helium (a large roasting bag) is suitable. No other preparation is needed, and such a bag is small enough to be folded discreetly or even used to hold toiletries and so avoid suspicion. The only other implements are material with which to make a tourniquet and some sort of rod with which to tighten it. Such things can be found impromptu or kept with one at all times.

There are a number of variations on the 'compression technique' depending on personal preferences and availability of equipment. Marjorie's story illustrates the Tourniquet Method (the most common method in this category). Another major variation is the Ratchet Tie-Down, explained in detail later in this chapter, and also Continuous Looping – which is only recommended if you are too weak to use any other variation.

Ligatures (tourniquet)

Marjorie's story

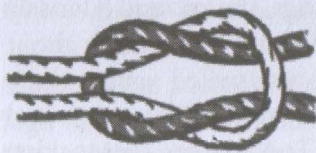
It had happened quite unexpectedly. What had seemed like a routine trip to hospital suddenly developed into something serious. They would do everything they can, but Marjorie was not expected to recover. Her careful plans to make sure the end was at a time of her choosing were not going quite as expected. In hospital, she had no access to pills or helium. She lay awake for a couple of nights making her plans, going over all the possible materials and making her choice. It didn't take too much to ask the nurse to bring her handbag for her so she could get one or two small items. She wanted her mirror and her lipstick, but most importantly she knew that in the inside zipped compartment were a pair of stockings. She had also managed to hide a spoon from dinnertime – a good metal spoon, proper cutlery, not like the stuff you got in some of the places she had been in.



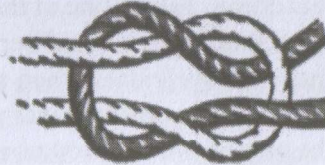
A suicide using tourniquet compression, as found by police.
The actual pathology photograph (ie, taken after death.)

Five Last Acts

Diagrams showing the correct and incorrect way of tying a knot that doesn't slip

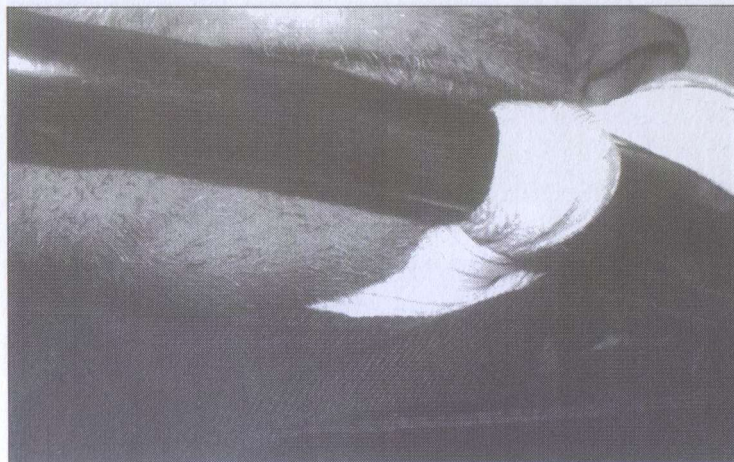


Reef knot (correct)



Granny knot (wrong)

Marjorie made sure her 'implements' were in a place where she could get at them easily, without making any noise that would attract attention, and not somewhere the nurse might find them and wonder what on earth this quiet little lady was going to do with them. She waited until the early hours of the morning when the ward was quietest until she made her move. Under the cover of the bedclothes, she made her



Close up of the tourniquet in the previous photograph

preparations. This was where all the dress-rehearsals would now come in handy! If she hadn't practiced many times beforehand when she was fit and healthy, working it all out

Section 1: Last Acts: 2. Compression

now may well have been beyond her: but she knew what she was doing. Taking one of the stockings, she knotted it loosely but comfortably around her neck. She wanted to allow about three or four inches when the loop was pulled tight and the elastic of the stocking was at its full stretch. Too much and the process would be cumbersome. Too little and the stocking would be uncomfortable even before she started. She tied it in a good knot that couldn't slip – a 'reef knot' I believe they called it, she reminded herself.

She remembered the many times she had practiced the technique, using her thigh at first so she could see what she was doing. If you started with the stocking looped around your thigh, one end in each hand, then knotted it – right over left and tuck it under, that was the natural way to do it. The second knot, the one that made it so it wouldn't come undone, started the opposite way: it went, left over right and



Not all compression suicides use a tourniquet. This 66-yr-old woman, used two knotted nylons. (Actual pathology photograph taken after death.)

Five Last Acts

tuck it under. (If you did two 'rights over lefts', you ended up with a 'granny knot' or slipknot.)

Carefully she positioned the loop around her neck so it was high up, well above where a man's Adam's apple would be. She knew that having it low on the neck would cause discomfort, since pressure lower down would compress the windpipe, and this was not her intention. Marjorie decided to slip part of the pillowcase under the loop as well – not strictly necessary, but when the nylon was tightened it could dig in to the skin a bit so might as well make it comfy with some padding. Next she slipped the spoon between her neck and the nylon of the stocking. Then she tightened the nylon loop as if tightening a tourniquet or turning the hands of a clock. In the practice sessions she had used a variety of implements that came to hand, some were a bit longer, some the length of a spoon. She had experimented turning the spoon in one direction and then the other to see which suited her best. After several turns she could feel it was quite tight – not far to go now. The spoon would not unwind itself – it tended to catch on the jaw or collarbone – but Marjorie would be lying down so there was also the bed there and she could be sure that, once the desired pressure had been achieved, it would remain.

Marjorie spent a few minutes lying quietly and pausing. Once more, she warmly reviewed all the wonderful things she had enjoyed in her life. She thought of her loved ones, and the sealed letter she had placed in her bag addressed to them, making sure they knew she was ending her life in the way she wanted, and that it was her decision alone, her wish.

Then she swiftly tightened the tourniquet some more until the woozy feeling started to come over her. One more turn. The

Section 1: Last Acts: 2. Compression

pressure was compressing the carotid arteries. Marjorie lay on her side, inclined downwards, breathing calmly as she fainted. No fresh blood reached her brain. Five minutes later, Marjorie was had breathed her last.

Recommended materials for the loop

A wide range of materials are suitable, according to personal preference and availability. The best material we have found is rufflette, sold in haberdashers or easily obtained over the Internet. Rufflette (or 'cotton webbing' or 'rufflette heading tape') is often used for edging when making your own curtains. It is a sturdy strip of material, but softer on the skin than that typically used for ratchet tie-downs or the strapping used for securing luggage. A recommended width is 25mm.



Cotton rufflette is an excellent material for a tourniquet loop

Five Last Acts

When looking at fabric strips, test the material to be sure it doesn't tear when you pull it hard. For instance, a polyester necktie won't have much 'give' – but a silk one may not be so strong. When looking in haberdashers to select fabric tape, rufflette is similarly stronger than 'bias binding tape.' The fibres of the latter being at 45 degrees to the length of the strip, making it stretchier as well as more fluid compared to a strip that is cut on the grain.

Recommended materials if you need padding

Sometimes the only available materials will be less than ideal. You may find, with your dress rehearsal, that they dig into the skin a bit uncomfortably when you tighten them. Even nylons (pantyhose) may do this if you are a bit sensitive. If you are



A fleece headband could be used for padding the neck when using compression (slide over your head and onto your neck before applying the loop)

very quick, you might not find this a problem, but it is equally ok to apply a little padding. Be prepared for any emergency. (Go back to the original challenge – if you had half an hour to get the materials now, what would you use?¹ Look around the room . . .) Almost anything will do for padding – a piece of torn-up clothing for instance. But worth considering if you have time to plan is a fleece headband, easily purchased from outdoor adventure shops.

Recommended materials for the rod

Some actual photographic examples where a large walking stick or similarly bulky ‘rod’ has been used in this chapter. You probably won’t need anything quite so big. The advantage of a longer implement is you can get more leverage with less pressure, but you may well find a walking stick far too cumbersome.²

Find what suits you best by gentle experimentation. If you start to get dizzy in your practice rehearsal, stop. You only need to experiment to this point, finding convenient materials and the best way to tighten the tourniquet enough (which will vary slightly from person to person). At workshops, popular implements have included a sturdy make-up brush and a wooden kitchen spoon.

¹ Probably the most recent case at the time of going to print involved the use of a dressing gown cord. *North Hykeham double death*, Lincolnshire Echo 5 Jan 2012.

² One of the first cases in print is reported in the New York Times on 26 November 1879. An elderly man had tied a red silk handkerchief around his neck and then used an eighteen-inch piece of broom-handle to tighten the tourniquet. The newspaper describes it as, “one of the most deliberate and determined suicides on record.”

Tourniquet compression: procedure

- a) take 2 to 3 feet of fabric strip, 25mm wide;
- b) place it around the neck and tie it securely in a reef knot, leaving a gap of about 3 fingers width between loop and neck;
- c) positioning the loop high up on the neck, insert a rod in the space between the fabric and the neck, to the side of the head;
- d) rotate the rod like the hands of a clock until the loop tightens, and in such a way that the rod catches on the jaw, collar-bone or (if lying down) the floor or mattress.
- e) tighten the tourniquet swiftly until unconsciousness



"Ladies' handbag simple compression kit." A large make-up brush and a length of rufflette fabric strip make a discreet emergency set that can be taken anywhere..

Section 1: Last Acts: 2. Compression

develops.

>>>*Hint (one)*: depending on the relative width of your head and your neck, you may need to cut the loop off after a rehearsal (when you have removed the rod), so keep a pair of scissors handy.

>>>*Hint (two)*: if you tighten the tourniquet very slowly you are liable to feel a swelling sensation in your head – this is mostly due to the veins being compressed before the arteries and can usually be overcome by simply turning the rod faster from the start.

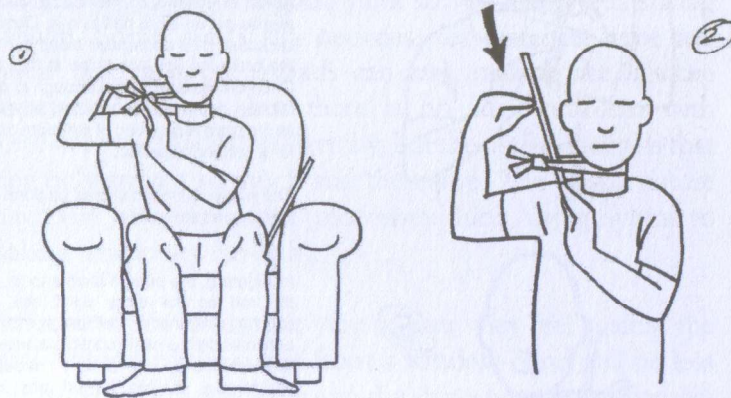


Dress rehearsal photograph showing a tourniquet made from fabric strip and a wooden spoon. The fabric strip is positioned high on the neck, above the Adam's apple. Once tightened, the spoon has caught against the collar bone and stays in place even when the hands are no longer holding it in place.

Step by step with tourniquet compression

The following diagrams provide a ready reference or re-cap. This method of self-deliverance is the simplest imaginable: but written explanations can make it look complex. In workshops, some people “get it straight away” whereas others keep deliberating, often imagining it is more technical than it is.

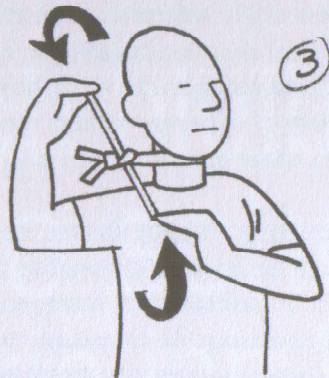
There are also an almost infinite variety of body shapes, neck length and muscle tone, so it will be more comfortable for some people than others, but it is primarily an emergency method that anyone can use in extremity. Some people will use a shorter stick (like a pen), some a longer one (such as a walking stick). There is no need to be prescriptive: just find what is best for you, or with the materials to hand.



In *Figure 1*, the person is seated upright in an armchair. The person ties the ligature in a reef knot that won't slip. The gap between the neck and ligature is about three fingers in width. The ligature is high on the neck, avoiding pressure on the larynx (in a man, this position is above the Adam's apple). The person is sitting so he or she will probably slump forward slightly when passing out (which also slightly increases the circumference of the neck and aids effectiveness).

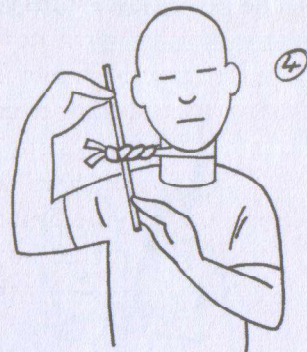
In *Figure 2*, the person inserts the rod in the space between the ligature and neck.

Section 1: Last Acts: 2. Compression



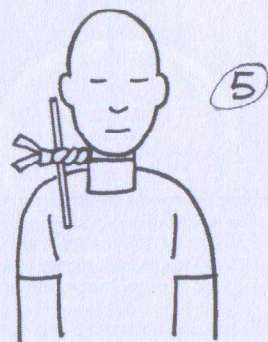
In *Figure 3*, the person begins to turn the rod which was inserted in *Figure 2*. It is turned like the hands of a clock. This can be done in either direction, and dress rehearsals will suggest which way is better for you. Whichever way it is turned, the effect is the same – it tightens the pressure on the neck. Not uncomfortably, but enough to make you feel a bit dizzy.

If you do this very slowly, you may experience a bloated feeling. This happens when the veins of the neck are compressed before the arteries. Much less pressure is needed to occlude the veins, so what happens when you do this too slowly is that the blood is still trying to flow in to the brain (via the arteries) but is not managing to flow out (via the veins). Death can still occur as long as the dizzy point is passed, but might be less comfortable.



In *Figure 4*, the person has turned the rod until the ligature is quite tight. At the point where one starts to feel dizzy, you can maybe get an extra half turn in. Dizziness is caused by a decreased blood supply to the brain, so you are close at this point. Once the ligature is tight enough to cause fainting, death will occur shortly afterwards as the brain is deprived of sufficient oxygen for a prolonged period.

The whole operation should be done quite quickly and securely.



In *Figure 5*, the person is able to let go of the rod as the dizzy point has been reached and another half turn or more can be achieved before losing consciousness. The rod catches on the body – depending which way it was turned and one's personal body shape, it catches either on the jaw or the front or back of the collar bone.

Note: if you do not feel dizzy and pass out within minutes, the tourniquet has not been applied correctly or tight enough. Stop, pause, and start again.

Choose the least worst option

The compression method is particularly suited for unforeseen circumstances, such as hospitalisation. When in such a desperate 'emergency' situation, detailed fine tuning may seem superfluous. Additional use of a plastic bag may even be so difficult in confined environments that any theoretical benefits seem to outweigh the burdens. In an emergency situation where you have very few choices left, choose the least worst option.

Similarly with choosing of materials. Rufflette is a good size, gentle on the skin, and unlikely to attract attention in a hospital bag. But if you forget, look out for what is easily available. You can find some sort of 'cord' in most rooms you would find yourself in. The belt from a dressing gown, or the cords from curtains or window blinds, or nylons from a 24-hour garage or 24/7 store. Test whatever you are going to use, if necessary, giving it a good yank so you know it is strong enough. Some men's silk neckties, for instance, have too much 'give' and the threads can tear, making the ligature unexpectedly loose, but there is no such problem with polyester ties. Nylons are stretchy, but the useful quality is that they only stretch so much and then stop. The elastic nature may even be a plus point (motorists: think, using nylons to make a temporary fan-belt).

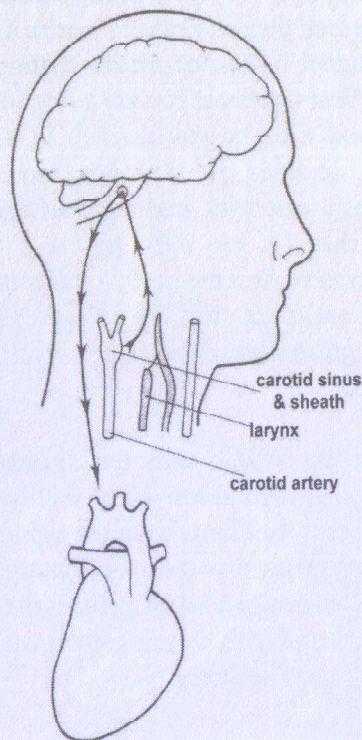
Different types of ligature vary in how they feel against the skin. Nylons, or the cords from a window-blind will be less comfortable as they will dig into the skin a bit when tightened. The discomfort is only momentary if you do it correctly, and might not be important if you are in a lot of pain. It is ok to use some padding (like a piece of torn clothing, for instance) so the ligature does not cut into the skin.

Section 1: Last Acts: 2. Compression

No wooden spoon, make-up brush or narrow paintbrush? What about a pen, a spoon from the hospital dinner tray? Something long enough not to suddenly come loose. You might also want to avoid things with a point sharp enough to scrape the skin accidentally, such as a fork or some biro's – you don't want to stab yourself!

Are there any other dangers in dress rehearsals?

Precautions include having a pair of scissors handy in case you can't untie the knot: you'd feel pretty silly going to your next door neighbours and asking for a pair of scissors to cut it off (even more so if you used the ratchet, as described later in this chapter!) A more serious concern is something called "vagal



Vagal inhibition is a rare phenomenon but one that causes death almost instantly – within minutes at most. It will occur only in a few instances of ligature compression.

Pressure on receptors in the carotid sinuses, carotid sheaths, and the carotid body, situated about the level of the jawline, may cause an increase in blood pressure in these sinuses and, as a result, a slowing of the heart rate, dilatation of blood vessels and a fall in blood pressure. The result is instant (or near-instant) death.

In normal persons, pressure on the carotid sinus causes has a minimal effect, decreasing the heart rate only slightly, and producing only a slight drop in blood pressure. Some people however are extra-sensitive to stimulation of the carotid sinuses, with results ranging from irregular or slow heartbeats to cardiac arrest and death.

inhibition.”¹ Uncommon, but well recognised, this is sudden cardiac arrest brought about by pressure on the carotid sinus and sheath.² This is a rare response, not a typical one – and if it happens, can clearly hasten a good and very quick death – but is something to be avoided in dress rehearsals! Normal individuals do not experience this carotid sinus hypersensitivity, but the risk is there and mostly affects older males and people in poor health.³

If you are at all worried, do not take your dress rehearsal to the point where great pressure is applied to the neck: just make sure you can tie the ligature appropriately, insert the rod, and wind it until it catches on your collar-bone or jaw. In that way, you will be familiar with the method if you ever need to implement it. If and when you use compression for real, you will need to tighten the tourniquet rather more, so that you become dizzy and lose consciousness.

Definitive diagnosis of carotid sinus hypersensitivity requires a precise medical procedure⁴ and not something that can be

¹ A great number of supporting technical references are included in the footnotes and chapter notes of this volume, for reasons explained. But for readers who enjoy a more general, non-technical overview as a companion read, Lyle’s “Forensics – A Guide for Writers” is an enjoyable paperback, written by a doctor, but sublimely free of technical jargon. Writer’s Digest Books, 2008.

² Choking as a Cause of Vagal Inhibition (Sudden cardiac arrest) in: Polson C, Gee D, Knight B, *The Essentials of Forensic Medicine*. Pergamon Press 1985:466-467 for a general description. There have also been cases of drowning where sudden death has been attributed to vagal inhibition.

³ Although commonly referred to, the mechanism is not without controversy. See, for instance, <http://www.datenschlag.org/howto/atem/english/csr.html> accessed 1 July 2012.

⁴ Parry S, Richardson D, O’Shea D, Sen B, Kenny, Diagnosis of carotid sinus hypersensitivity in older adults: carotid sinus massage in the upright position is essential, *Heart* 2000;83:22-23.

Section 1: Last Acts: 2. Compression

guessed, but age and sex seem to increase its likelihood. It is virtually unknown in persons younger than 50 years old, but has been observed in up to fourteen per cent of elderly nursing home patients. If you are wondering how vulnerable you are to carotid sinus hypersensitivity, as well as age and sex, it is also associated with hypertension, coronary artery disease, orthostatic hypotension, vasovagal syncope, Alzheimer disease, Parkinson disease, dementia, or concurrent medication with digitalis, beta-blockers, and methyldopa.¹

In summary, vagal inhibition is a danger if you are doing realistic dress rehearsals, but a very slight one, and considered non-existent if you are reasonably young and still in good health.

Do I have to be sitting upright?

No. A number of cases of ligature compression suicide involve the person lying down. This is particularly suitable for someone in hospital. The rod can catch against the mattress or the floor. Doing the procedure lying down may also be more comfortable for someone who has limited energy.

If you are able-bodied, it is largely a matter of preference. You do want to make sure that you cannot fall over in a way that would dislodge the tourniquet. So if you choose a sitting position, an armchair is better than a straight-backed chair with no armrests. As a reminder, whichever position you select, have a thought for those that might find you. If lying

¹ A long and detailed examination of carotid sinus hypersensitivity can be found online in Medscape reference: Wijetunga M, Carotid Sinus Hypersensitivity, <http://emedicine.medscape.com/article/153312> accessed 1 July 2012.

Also: Lacerda G, Pedrosa C, Lacerda R, Santos M, Perez M, Teixeira A, et al. Cardioinhibitory carotid sinus hypersensitivity: prevalence and predictors in 502 outpatients. *Arq Bras Cardiol.* Mar 2008;90(3):148-55.

Five Last Acts

down in hospital, waiting until the early hours when everyone is asleep is a good idea. Performing the procedure under the bedclothes (or at least pulling the sheet up over one's head so as to be shielded from prying eyes) is common sense.

As with all methods of self-deliverance, it will help if you are able to leave a note for others, as described elsewhere in this book.

How much time do you need?

The process only takes a few minutes, and even less than that time before unconsciousness occurs. To guard against the possibility of resuscitation attempts, allow a half hour or more undisturbed.



Tourniquet compression can be used lying down – and may be the more desirable option to end one's life discreetly in a hospital or nursing home.

Section 1: Last Acts: 2. Compression

Variation 1: addition of a plastic bag

This has been suggested as a possible double-safety measure. There is no evidence to suggest it is necessary. However, if you want to make 'doubly sure,' you can use a large roasting bag, like the one described in the chapter on helium. There is no real need to elasticate it, as you did when making the helium hood: just place the bag over the head before applying the tourniquet. Experiments have demonstrated that there is plenty of time to do this. If you get stuck, just take the bag off, pause, and start again. Putting the bag on *before* tying the tourniquet loop seems easier in practice than tucking it under the loop afterwards.

What are the arguments about using a plastic bag in addition to compression?

Some people will use compression as a last resort when no other method is available to them. The tightened tourniquet alone stops oxygen reaching the brain, enough to produce unconsciousness which is then followed by death of the brain. As it dies, the brain swells and haemorrhages, also destroying the brain stem (located at the base of the brain, controlling automatic functions even in unconsciousness and permanent vegetative state). Yet the neurology is complex and difficult to observe directly. It has been argued by some that, in very exceptional cases of strangulation, the brain stem could survive as it has a separate blood supply.¹ There are rare² but

¹ This idea was put forward by an anaesthiologist on the ERGO right-to-die news list. Research by Exit demonstrates that the possibility of it happening is so remote as to probably be discounted. As use of the compression method is not yet mainstream in the right-to-die movement, a section on using the additional plastic bag is nevertheless included in this chapter.

² Becker R, Sure U, Petermeyer M, Bertalanffy H, Continuous infusion alleviates autonomic dysfunction in patients with severe supraspinal spasticity, J Neurol

reported cases of strangulation in healthy people where the brain stem has survived and the person remained permanently unconscious in PVS.¹ So it has been argued by some people that a sensible additional precaution might be to place a small to medium bag over the head with the ligature over the top. This will ensure breathing stops and making it impossible for the brain stem to survive. The roasting bags used in the helium chapter for making helium hoods are quite sufficient. Further research is needed to understand why all the available documented cases of suicidal compression without any bag have clearly resulted in death rather than PVS. The rare instances where PVS has occurred that have so far been noted have all been in cases of *temporary* compression – such as when one person tries to strangle another person,² other cases of temporary pressure such as the children's 'choking game' (used to create a temporary 'high' from depleted oxygen),³ or neck restraints that used to be used in policing.⁴

Neurosug Psychiatry 1999;66:114, gives one such case of a 33-yr-old woman in PVS after hypoxic brain injury originating from non-suicidal strangulation.

¹ For a description of PVS (Persistent Vegetative State), see, for instance: Multi-Society Task Force on PVS, Medical Aspects of the Persistent Vegetative State, NEJM 1994;330(21):1499-1508. The cases involved were not suicides or self-deliverances.

² Simpson R, Goodman J, Rouah E, Caraway N, Baskin D, Late neuropathological consequences of strangulation, Resuscitation 1987;15(3):171-85. Details the case of a young man who was a victim of strangulation. After hospitalisation, he survived nearly 5 months in PVS before succumbed to pneumonia.

³ McClave J, Russell P, Lyren A, O'Riordan M, Bass N, The Choking Game: Physician Perspectives, Pediatrics 2010;125:82-87, p83.

⁴ Hall C, Butler C, TR-03-2007 National Study On Neck Restraints in Policing, Canadian Police Research Centre 2007.
http://www.wildgeesema.com/Neck_Restraints_in_Policing.pdf accessed 2 July 2012.

Section 1: Last Acts: 2. Compression

Examination of available data and discussions with one of the world's leading neurologists, persuades the present author that a plastic bag is almost undoubtedly unnecessary. A key difference between temporary (attempted homicide) and prolonged compression (self-deliverance tourniquet) is that, with the latter, blood cannot flow out of the brain, so the intercranial pressure is not only maintained but increases. PVS is exceedingly rare in cases of temporary pressure, but in cases of tourniquet death, there is a specific prolongation of the damage to the brain. The resultant, extensive herniation is thought to be a main factor in the irreparable damage to the brain stem.¹ Brainstem damage is a huge concern where there is swelling or bleeding in the brain, because the brain has nowhere to expand other than down into the brainstem area.

The neurology – brain death and brain stem death

(nb: although every attempt is made to avoid overly technical language, what actually happens inside the brain and brain stem that suggests the plastic bag is unnecessary requires some familiarity with the terminology. A quick reference guide is included for non-medics, but general readers can skip the next four pages (rest of this sub-section) if they wish, as you don't need to know all the details of how it works in order to use the compression technique.)

The left and right common carotid arteries are the major arteries that supply the head and neck with oxygenated blood; they divide in the neck to form the external and internal carotid arteries. The carotids are located near the front of your

¹ See also, for instance: "Brain herniation is a condition in which a portion of the brain is displaced because of increased intercranial pressure, resulting in progressive damage to brain tissue that may include life-threatening damage to the brain stem." American Academy of Orthopaedic Surgeons, American College of Emergency Physicians, Critical Care Transport, Jones and Bartlett 2004, p.407.

neck and are what you feel when you take your pulse just under your jaw. There are also vertebral arteries, which join to form the basilar artery, which supplies blood to the brainstem, and also connect to the Circle of Willis to potentially supply the rest of the brain if there is compromise to one of the carotids.

But the Circle of Willis – an arterial circle at the base of the brain – not only varies anatomically from one individual to another and is often incomplete¹ – but could at most, and only that much in some cases, compensate for the occlusion of just one of the carotid arteries,² and is only there to compensate for minor occlusions. This is because the carotid arteries each contribute about 40% of the brain's required blood supply. Only the remaining 20% goes through the vertebral arteries through the base of skull. So occlusion of both carotid arteries, as in ligature compression, is more than can reasonably be compensated for by the Circle of Willis, which needs to maintain blood pressure at 50 per cent of normal to prevent death of brain tissue.³

Survival after strangulation attempts is not uncommon; whereas with ligature compression, the cause of brain damage is maintained until death occurs.

¹ See, for instance, Bergman R, Afifi A, Miyauchi R, Circle of Willis, in: Illustrated Encyclopedia of Human Anatomic Variation, at <http://www.anatomyatlases.org/AnatomicVariants/Cardiovascular/Text/Arteries/CircleofWillis.shtml> accessed on 4 July 2012.

² See for instance, Tortori-Donati P, Rossi A, Biancheri R, Pediatric Neuroradiology: Head and neck, spine, Springer 2005; p943.

³ McCaffrey P, Neuroscience on the Web, <http://www.csuchico.edu/~pmccaffrey/syllabi/CMSD%20320/362unit11.html> accessed 4 July 2012

Section 1: Last Acts: 2. Compression

Brainstem damage is always a high concern with any swelling or bleeding in the brain, because the brain has nowhere to expand but down into where the brainstem is. The rapid death of brain cells deprived of oxygen alone is associated with swelling, but that is not all. There are a number of other contributing factors to death with the compression of arterial flow. When blood pressure is very low, the brain is deprived, “not only of oxygen but also glucose and all other nutrients as well as the nutrient/waste exchange process required to support brain metabolism, resulting in the development of a hypoxic-ischemic state. This state is characterized by cellular energy failure, membrane depolarization, brain edema ...”¹

Neither does there need to be total blood stoppage. Several authors have suggested that watershed infarcts also occur in cases of carotid occlusion (tissue death caused by insufficient blood supply at neighbouring areas, much like lack of irrigation at the most distant parts of agricultural fields).² But from brain death to brain stem death, a number of factors come into play separately or together. Several of these are a result of changes in the brain. Direct hypoxic damage affects the cortex more than the brain stem. But continued compression from the ligature (not present in strangulation cases where the compression is only temporary) maintains any increase in venous pressure, which, together with changes associated with tissue death in the brain and resultant haemorrhages, can cause ‘coning’ – a resulting swelling (oedema). In short,

¹ Arciniegas D, Hypoxic-Ischemic Brain Injury, International Brain Injury Association 2010; Issue 3, <http://www.internationalbrain.org/?q=node/131> accessed 4 July 2012. For a fuller explanation: Haddad G, Ping Yu S, (Eds), *Brain Hypoxia and Ischemia* (Contemporary Clinical Neuroscience), Humana Press 2009; pp213-214.

² Hypoxic-Ischemic Brain Damage, In: Rabinstein A, Resnick S, *Practical Neuroimaging in Stroke*, Saunders 2010, p.12.

various physical pressures from the brain itself impact the brain stem and make its survival unlikely.¹ But how to pin down the exact sequence of events? A bit like launching a rocket-propelled grenade into a house and asking what causes the house to collapse – was it the fire? The air pressure from the explosion? The initial or subsequent damage to the structure? Theory, experience and common sense says it works, but the experimental hurdles to determine the exact mechanism may be hard to arrange. Similarly, it is difficult to imagine persons undergoing a brain scan while performing self-deliverance ligature compression.

Yet although it is a simple process, the precise sequence of events in the brain, and the rareness of PVS occurrence, cannot easily be 100 per cent established outside of neurological theory and available statistics: it is almost impossible, for instance, to observe the process of brain herniation as it occurs, and on sufficient numerous occasions to provide meaningful data to exclude an as yet unknown exception to the rule. So even though all the evidence points to the addition of a plastic bag as being redundant, all that can be said is that no-one has survived a properly maintained ligature into PVS, and that there seems no possible likelihood of it. Whereas the evidence is of a slightly different order when

¹ Pallis C, ABC of Brain Stem Death: From Brain Death to Brain Stem Death, *BMJ* 1982;285:1487-1490. For instance: p.1489 "Direct hypoxic damage affects the cortex more than the brain stem." And then (1489-1490), "Intracranial hypertension is also a feature of the cerebral oedema that almost invariably complicates acute anoxic insults to the brain. The initial effects, in such cases, are often complicated by the development of various intracranial 'shifts.' There may be downward-spreading oedema and caudal displacement of the diencephalon and brain stem with stretching of the perforating pontine branches of the basilar artery and secondary haemorrhages in their territory. Or the brain stem may be compressed from uncal herniation into the tentorial opening." Several other damage routes are listed.

Section 1: Last Acts: 2. Compression

looking at the addition of a plastic bag, inasmuch as it would be physically impossible to survive into PVS, as the bag forms a physical barrier against any oxygen entering the system.

Some key definitions to help understand brain anatomy . . .

Anoxia - complete lack of oxygen supply

Arteries - blood vessels that carry blood away from the heart (this blood normally carries oxygen to the tissues). The left and right common carotid arteries are the major arteries that supply the head and neck with oxygenated blood; they divide in the neck to form the external and internal carotid arteries. The carotid arteries are located in the front of your neck and are what you feel when you take your pulse just under your jaw. There are also vertebral arteries, which join to form the basilar artery, which supplies blood to the brainstem, and also connects to the Circle of Willis to potentially supply the rest of the brain if there is compromise to one of the carotids.

Brain ischemia / cerebral ischemia - insufficient blood flow to the brain to meet metabolic demand leading to poor oxygen supply or cerebral hypoxia.

Brain herniation - is when brain tissue, cerebrospinal fluid, and blood vessels are moved or pressed away from their usual position inside the skull (one of the causes of this can be haemorrhage).

Circle of Willis - an arterial circle at the base of the brain which varies anatomically from one individual to another and is often incomplete. It is there to compensate for minor occlusions. The carotid arteries each contribute about 40% of the brain's blood supply. The remaining 20% goes through the vertebral arteries through the base of skull. So occlusion of both arteries is more than can reasonably be compensated for by the Circle of Willis.

Hemorrhage - escape of blood from a blood vessel. Profuse bleeding.

Hypoxia - lack of sufficient oxygen supply.

Infarction - tissue death caused by an obstruction of the tissue's blood supply, which leads to a local lack of oxygen.

Intracranial pressure - the pressure inside the skull.

Ischemia - inadequate blood supply to a local area due to blockage of blood vessels leading to that area.

Hypoperfusion - decreased blood flow through an organ.

Oedema (edema) - an abnormal accumulation of fluid that causes swelling.

Perfusion - delivery of blood to a capillary bed in the biological tissue.

Veins - blood vessels that carry blood towards the heart (most veins carry deoxygenated blood away from the tissues).

Section 1: Last Acts: 2. Compression

How to use a bag with the compression technique

Experiments by many people and on several occasions in the workshops have demonstrated that there is plenty of time to apply the tourniquet after placing the bag over one's head if you so wish. (Note these were done in the safety of company!) No feelings of stuffiness or discomfort were experienced. Practice applying the tourniquet swiftly and safely before experimenting using the small bag. The whole dress rehearsal should be done very quickly at this stage. It is highly unlikely that a person would get 'stuck' or pass out accidentally, but we strongly recommend that you do such a dress rehearsal in the company of a trusted friend or partner for safety's sake. Place the knotted loop over the head. Some people, especially if they have a very wide head and a very narrow neck, may find it easier to tie the loop once it is around the neck instead of beforehand. Learn how to make a secure knot blindfold when tying the ends of your strip of material together to form your loop. Even without the bag, you probably need to do this at some point as the angle means you can't judge the distance and appropriate place for the knot without a mirror. Have a pair of scissors to hand for safety – the loop is quite loose, but it might not be loose enough to pull over your head again. Once the loop is tied loosely around your neck, practice inserting the stick and tightening it quickly like the hands of a clock – to the point where it catches on your jaw or shoulder, not necessarily to the point where it makes you dizzy. Then take the stick out and place it nearby. Then do it again but put the roasting bag over the head first and apply the tourniquet over the top. The whole procedure takes less than half a minute.

Most people will choose the largest size of roasting bag available. Try it on for size when you get home just to make sure. It needs to be long enough so the lower edge will be

Five Last Acts

under the tourniquet when applied, but apart from that, it is not really critical.

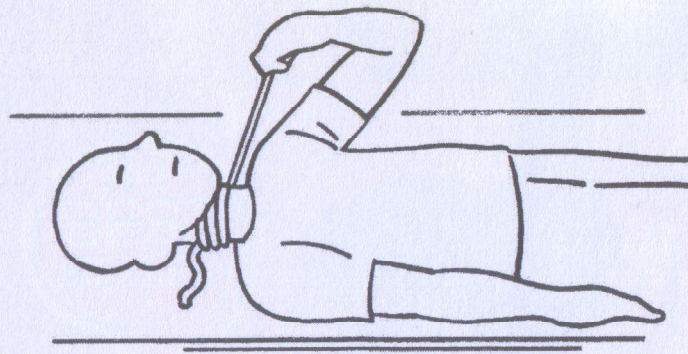
When it comes to do the procedure for real, the only difference is an extra turn or two to ensure you go dizzy and pass out. This will occur before you run out of oxygen if you are using a plastic bag as well.



Variation 2: Continuous looping

One of the best documented cases of compression in a hospital setting in the medical journals involved no tourniquet and nothing to tighten the loop. Many types of ligature can be made simply by looping material around the neck repeatedly.

Continuous looping simply means passing a cord or textile strip around the neck again and again, with many turns, using a material that doesn't slip. Nylon coated cords, for instance, tend to slip, whereas many cords (such as traditional string) create a certain amount of friction. Simple knots with some of the turns may help. Once the cord has been wrapped tightly around the upper part of the neck it tends not to slip and, if there is sufficient pressure to occlude the arteries, death results. This variation is only recommended in an emergency (for instance if no other materials were available). For comfort, some padding is desirable, especially if using thin cord or string. A number of deaths have been recorded where a person has simply had time to wrap stockings around the neck



Continuous looping takes longer than using a tourniquet, but may be used in emergency, especially if one is very weak or does not have suitable items to make a tourniquet.

and tie them at the nape of the neck.

Friction of the material keeps it in place and prevents it from loosening.¹ Cardiologist DP Lyle explains it simply:

“Suicide by ligature strangulation is rare, but not unheard of. Since it takes approximately fifteen seconds or so to lose consciousness, the victim has time to secure the ligature in place by either tying a knot or wrapping the cord several times. In the latter situation, the overlapping loops secure the ligature in place. Once the victim loses consciousness, he cannot loosen the ligature and death from asphyxiation follows.”²

This is something that can be practiced on your leg first of all – keep wrapping the material, cord or whatever else you have to hand around your thigh again and again fairly tightly. You need quite a long length.³ But eventually you will find (unless it is very slippery material) that the wrapping stays in place without coming undone. It can even be tight enough to cut off much of the circulation in your leg (of course, we recommend you take it off quickly once you feel that happening!). But it is simple enough. It does away with wondering if it is

¹ Frazer M, Rosenberg S, A case of suicidal ligature strangulation, *American Journal of Forensic Medicine and Pathology* 1983;4(4):351-354. “. . . successive layers of twine provided gradually applied tension.” (53-year-old male, looping twine around his neck 35 times then pulling it tight with a single knot.)

² Lyle DP, *Forensics*, Writers Digest Books 2008, p.163.

³ Demirci S, Dogan KH, Erkol Z, Gunaydin G, Suicide by Ligature Strangulation: Three Case Reports, *Am J Forensic Med Pathol* 2009;30(4),369-372, 371. The authors note that cases with up to 20 turns have been recorded in the medical literature.

Section 1: Last Acts: 2. Compression

tight enough as the pressure can gradually be increased with each successive turn.

But bear in mind two very important points. Firstly, as the pressure is increasing only gradually, it will also decrease gradually as you *unwind* it, so be *very* careful in any dress rehearsal that you can unwind it again before passing out. Another good reason to do the main dress rehearsal on your leg!

Secondly, we only recommend continuous looping if you are too weak or for some other reason unable to form a satisfactory tourniquet. Although there have been many cases of suicide with a continuous loop, you must be very sure that it is not going to unwind.

Variation 3: Knotted cord or ligature alone

In some cases, sufficient pressure can be arranged just by knotting the ligature after tightening it. See the example of the 66-yr-old woman pictured in this chapter.¹ The simple facts are that everyone's neck is different. Some will find sufficient pressure using knotted tights. There are cases of people using a textile belt, a scarf, or even cable ties, a clothesline or a sphygmomanometer.² But a textile strip, of the sort recommend in this chapter, is a common choice and a comfortable one.

¹ And detailed in Case 1 from: Di Nunno N, Constantinides F, Conticchio G *et al*, Self-Strangulation, *Am J Forensic Med Pathol* 2002;23(3): 260-263.

² Maxeiner H, Bockholdt B, Homicidal and suicidal ligature strangulation—a comparison of the post-mortem findings, *Forensic Sci Int* 2003;137(1):60-66.

Belts and cable-ties can sometimes be tightened sufficiently to cause death. The present author, who also practices yoga, has been experimenting with meditation belts.¹ An artist might use an artist's paint-brush, a Scotsman a sturrock.² In this way, death can be personalised to say something about one's own lifestyle. One of the photographs in this chapter shows a man who has used a walking stick to tighten his tourniquet. Looking at his deceased body, one can conjure a fine picture of him walking over the hills. But many people might find such a large implement unwieldy.

Practically anything will do, but experiment to see what suits you as well as what may go unnoticed (important if discretion is an important factor for you). A make-up brush would probably go unnoticed in a woman's hospital purse, but the same could not be said of a man's overnight bag. Everyone's body has slightly different proportions. It is only necessary that the rod, stick, brush (or whatever you use) is sufficient for you to turn the tourniquet and then catch on your shoulder, jaw, or the floor/mattress so it does not unwind. If you use some other method of compression, not involving a rod to tighten the ligature, make sure you can achieve sufficient tightness and that it will not slip.

Individual responses will clearly vary, but the examples are very varied. For instance, one woman committed suicide by

¹ These are sturdy belts (see illustration in this chapter), mostly used in Iyengar Yoga, for maintaining a posture by looping the belt around the body. They are designed for easy adjustment. The author, using one in a seated posture for over an hour, has noticed some movement in a cheaper belt that had a small buckle (which might make it unsuitable) though a sturdier one didn't slip, even with body pressure.

² The traditional Scottish kitchen implement for stirring porridge.

Section 1: Last Acts: 2. Compression

tying a purple sweater tightly around her neck while in hospital.¹

Variation 4: Ratchet Tie-Down

The ratchet tie-down is a main variation on this method. What Marjorie achieved with a handmade tourniquet is here achieved with an easy-to-obtain, inexpensive piece of equipment. Some people find the ratchet off-putting. You can skip this section if you wish.

You might want to purchase one and familiarise yourself with it before deciding if it is to be one of your methods of choice. You will find them at various retail stores such as those that stock materials for home improvements or car accessories. The usual purpose is for such things as securing luggage on a car roof rack or holding items securely on garage walls; the



An example of a suitable 'hookless' ratchet tie-down

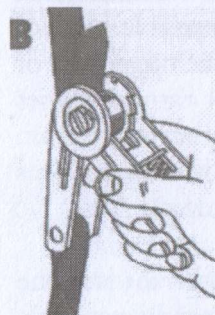
¹ Coroner's Inquest Number 23/2009 (1173/2007) into the death of Sofija Dobrijevic, 2007, Neck compression by ligature. http://www.courts.sa.gov.au/courts/coroner/findings/findings_2010/Dobrijevic_Sofija.pdf accessed 2 July 2012.

Five Last Acts

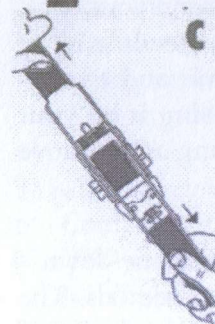
load stays secure because the webbing tightens and stays locked in place with every push, until you release it by pushing the thumb lever(s).



The advantage of the ratchet is that once you are comfortable working it, the procedure is very straightforward. You don't have to worry about whether to give it an extra turn – just keep working the lever back and forth an inch or so until it is very tight and you pass out. It takes very little effort (but beware - it takes quite a bit more effort to take it off!) Another advantage is that it is very comfortable. There is no fabric strip knot digging into your neck, just a smooth metal plate where the fabric loop meets.



Only practice with the ratchet on your neck if you are extremely confident that you can operate the mechanism easily and release it when required. If possible, do your dress rehearsal with a trusted friend, and keep a pair of scissors handy just in case it gets stuck or you can't operate the release mechanism once the ratchet is in place.



Some people find working the ratchet tie-down comes quite naturally and also like the aesthetic appeal (it looks nice and neat once in place) – others find it quite the opposite and even distasteful. In the workshops, persons who have already used them for ordinary purposes, were naturally inclined to physical work involving

Section 1: Last Acts: 2. Compression

ratchets, and more men than women, preferred them. Those who had difficulty working them initially also seemed less inclined to favour them. Although it comes with full instructions, some may find it awkward to use or worry about operating the release mechanism once the tie-down is in place.

If you buy the ratchet and find you are not attracted to the mechanism, you can cut the fabric strip off it and use that as a band for the tourniquet variation.

There are two main types of ratchet tie-down – ones with a hook and ones without. The only type that you are interested in is the one without (see illustration). It is possible to place the loop from the ratchet tie-down around the upper part of the neck, tightening with the ratchet until the carotid arteries are compressed sufficiently for the blood supply to the brain to be interrupted (without interrupting the breathing). This results in loss of consciousness followed by death.

It is very important to familiarise yourself with the way the ratchet tie-down works before placing it around your neck. **The thumb release mechanism generally needs a bit of practice. Read the instructions on the box and experiment with strapping down luggage or using it on your thigh (where you can see what you are doing and remove it easily).**

Some people will find that, once fitted, the ratchet tie-down is more aesthetically pleasing than many other methods. The webbing material is also comfortable against the neck and generally will not necessitate additional padding.

Using the ratchet tie-down

The ratchet tie-down is simply a mechanical refinement of the tourniquet method that appeals to a small number of people. Trim off excess strapping – only about a metre is needed. Then thread the strapping: it is a bit like threading the film in an old-fashioned camera. Practice on your thigh for dress rehearsals, and especially practice undoing the ratchet, which is much harder to undo than tighten.

Step by step:

- Work the handles until the slot is exposed on the centre spindle.
- With the handles in a 'V'-shape, feed a few inches of the free end of the strap through the centre of the spindle (A). This part is like threading a bobbin or camera sprocket. Hold it with 'V' pointing upwards, insert the strap from the top of the 'V' shape.
- Crank the handle to secure the strap (two or more layers of strap must be wound around ratchet reel for a secure hold.) See diagram (B).
- Place the loop around your neck (or your thigh if you are in a dress-rehearsal practice-run). Tighten swiftly, as needed, by cranking the handles a few turns.

To release the ratchet:

- Compress the spring release bars and open the handle 180° until it clicks. (You can still release the strapping if it won't open to 180° but it may require more effort.)
- Firmly pull apart each side of the secured strap (C).
- Compress the spring release bar again and return to the start position.

Section 1: Last Acts: 2. Compression

Other variations on the compression method

Successful suicides have been recorded in the medical literature with two other methods — continuous looping and suspension.

Suspension is a gentle method that has been recorded frequently in the medical literature. It does not require suspension of the whole body (as in hanging) but simply uses the weight of the upper body to apply pressure via a large loop or strap to the carotid arteries.¹ For instance, *Bhardwaj and Rautji* cite a case of a male, “. . . suspended . . . with his feet touching the ground.” The loop can be attached to any fixed object such as a door handle, hook, ceiling fan, stair rail or kitchen bar. The loop is placed around the neck in



Ratchet tie down in place (dress rehearsal photograph)

¹ Some confusion from reading the literature can arise as words are sometimes used differently according to context. “Around 50% of hanging suicides are not fully suspended — ligature points below head level are commonly used.” Gunnell D, Bennewith O, Hawton K, Simkin S, Kapur N, The epidemiology and prevention of suicide by hanging: a systematic review, *International Journal of Epidemiology* 2005;34:433–442.

such a way that, by slumping forward (facing the floor), pressure is placed on the carotid arteries. The carotid arteries are compressed with as little as seven pounds of pressure (the jugular veins with even less – about four and a half pounds). This varies greatly between individuals, but is quite small, which is why a sitting or semi-reclining position is sufficient.¹ A massive 33 pounds of pressure, in contrast, is needed to compress the airway. Suspension does not require much knowledge and can be accomplished even by invalids.² The optimum position for the ligature is with the person facing downwards. If a knot is tied, it is best at the back of the neck. This maximises occlusion of the arteries leading to unconsciousness and death.³

Pressure gadgets have been discussed on and off by the NuTech group.⁴ You find something that you can

¹ Percentage of body weight involved stretching the ligature: Standing with toes touching the floor: 98%. Standing with feet flat: >65%. Kneeling with buttocks down: 74%. Kneeling with buttocks up: 64%. Sitting with back inclined down: 32%. Sitting with back upright: 17.5%. Recumbent (lying down), prone (face down): 18.3%. Recumbent, supine: 9.7%. Khokhlov V, Calculation of tension exerted on a ligature in incomplete hanging, *Forensic Sci. Int.* 123:172–177, 2001.

² It has sometimes been objected that only persons in prisons and institutions, driven to suicide by desperation, use such methods. According to the review by Gunnell and Bennewith (*ut supra*) this is not the case. They found that: “Only a small proportion (around 10%) . . . occur in the controlled environments of hospitals, prisons, and police custody; the remainder occur in the community.”

³ Iserson K, Strangulation: A review of ligature, manual, and postural neck compression injuries, *Ann Emerg Med* 1984;13:179–185, pp.179–180.

⁴ World right-to-die news list, Vol.18, Issue 96, Sat, 16 Jun 2012: “Neal Nicol (long time colleague of Jack Kevorkian’s) developed a prototype of a carotid artery compression device. Theoretically the blood supply to the brain would be

Section 1: Last Acts: 2. Compression

put inside the ligature that exerts more pressure on the carotids area than the rest of the neck. In one suggestion, a ligature with pressure items is tightened around the neck and then a second ligature – one suggestion being sphygmomanometers¹ (blood pressure cuffs) to increase the pressure on the arteries. The type of blood pressure cuffs designed for children are a preferable width but often not long enough.²

The use of a second ligature is not unknown in the medical literature. In one case, a man attempted to use cable ties, tightening them by means of a cable-tie tensioner³ and then resorting to an ordinary leather belt when there was no loss of consciousness.⁴

quickly cut off and a painless, quick death would occur. This apparatus has not been tested. This is a variation of what Ruth Van [sic] Fuchs suggested many years ago at a NuTech meeting in a more primitive version, the Killer Potato, where compression was caused by two potato halves.” In both the Nicol version and the von Fuchs version, solids – pieces of potatoes or pieces of pipe – are attached to the ligature to exert additional pressure to the carotids. The idea seems sound enough in theory, although the present author can find no known cases at the time of writing.

¹ “velcro added inside, 4 inch pvc connector 001, adjustable strap added to outside velcro, cut in half velcro neck strap 2 holes, hand pump connected to both bladders, two pediatric cuff bladders velcro on inside” (private communication).

² Thank you to a researcher in India who contributed this idea and who wishes to remain anonymous.

³ Readily available by mail order on the Internet.

⁴ Sorokin V, Persechino F, DeRoux SJ, Greenberg M, Suicidal ligature strangulation utilizing cable ties: a report of three cases, *Forensic Sci Med Pathol*. 2012;8(1):52-5

How to find the carotid arteries

This is usually quite easy (but don't worry if you can't find them!) The instructions from St John's Ambulance suggest: "With the head tilted back, feel for the Adam's apple with two fingers. Slide your fingers back towards you into the gap between the Adam's apple and the strap muscle [the easily identifiable muscle running up the side of the neck from the shoulder blade to the hinge of the jaw] and feel for the carotid pulse." You are feeling under the jaw bone at the front/side of the neck. Use the pads of the fingers rather than fingertips or thumbs. Some people have a stronger (or more apparent) pulse here than others. In workshops, most, but not all, participants were able to identify the carotid artery successfully. (It may help if you close your eyes.) Knowing where it is will make it easier to understand what you are going to accomplish when you compress it with the ligature, but don't worry if you can't feel the pulse.

How common is compression suicide?

One study cites 19 suicides by ligature strangulation in Berlin, Germany, alone.¹ Meta-analyses of cases are fairly recent.² One of the difficulties with researching some statistics is that they frequently fail to distinguish between homicide and suicide and, of the latter, between ligature compression alone (for instance, using a tourniquet) and ligature compression

¹ Maxeiner H, Bockholdt B, Homicidal and suicidal ligature strangulation—a comparison of the post-mortem findings, *Forensic Sci Int* 2003;137(1):60-66.

² See for instance, McMaster A, Ward E, Dykeman A, Warman M, Suicidal ligature strangulation: case report and review of the literature. *J Forensic Sci* 2001;46(2):386-388. Meta-analyses of self-strangulation by ligature have also been mentioned by Palmiere C, Risso E, van Hecke O, La Harpe R, Unplanned complex suicide by self-strangulation associated with multiple sharp force injuries, *Med Sci Law*. 2007;47(3):269-73. At least one is in German, so not cited.

where the compression force is provided by suspension or partial hanging.¹ The method has not been widely promoted by self-deliverance societies until recently, so there have been relatively few occasions where it has been used in rational suicide by members of 'right-to-die' societies. There are many cases involving persons who have been mentally unstable, some suffering from severe illness, and a good number of simply elderly persons. (Similarly, there were hardly any cases of helium suicide until that method was widely publicised.) Although the statistics are convincing, and more numerous than when the first edition of *Five Last Acts* was published, it places even greater responsibility on the science itself, so we have looked into it in considerable detail.

Is compression of the arteries uncomfortable?

As long as the loop is applied correctly, there should be little or no discomfort. For a visual demonstration of passing out from compression, one only needs to look at any of the many instances of the 'sleeper hold' demonstrated.² This hold, readily applied by a martial arts expert, is simply being duplicated mechanically. In martial arts, the hold is released after the person loses consciousness; in suicide, it is maintained after loss of unconsciousness until death ensues. Martial arts experts interviewed by the author have described it as 'quite

¹ Some make at least an attempt. For instance, the Annual Report of the Office of the State Coroner 2004-2005 (Perth, Australia) reported 160 prison deaths, listing 63 suicides, which included 29 by ligature compression of the neck, 23 by hanging, 5 by using a plastic bag, 2 from self-stabbing, 1 by gunshot, 1 by cyanide, 1 by multiple injuries and 1 by electrocution. Some caution may be needed due to different ways of reporting.

² eg http://www.dailymotion.com/video/x6x1hf_gene-lebell-how-to-sleeper-hold_spo accessed 21 May 2012. Gene LeBell, the legendary judo master, applies the hold to a volunteer, who is interviewed afterwards. The volunteer clearly feels nothing as he is seen being 'put to sleep.'

pleasant' or 'just like fainting.' The method, perversely, is used for *pleasure* by persons in the dangerous cult practice of erotic asphyxiation.

If the compression is applied too slowly, a feeling of fullness (by blood being backed up in the head) can occur. If a poor choice of loop is made, it may press uncomfortably into the skin. Dozens of people have tried the compression dress-rehearsal in Exit workshops without incident. Visual evidence of persons who have died using compression suicide (such as the example illustrations in this chapter) show no strong sign of discomfort, such as one might expect in a painful death. Indeed, there is no practical or theoretical reason why the method should entail any more than momentary discomfort, and this seems borne out by the evidence.

Compression is a peaceful and quick method of dying by suicide. It should not be confused with homicidal strangulation or hanging, both of which can exert uncomfortable and even painful pressure on the neck that causes struggling and gasping for breath, as well as other injuries.¹

Bodily appearance after death

As you can see from the photographs, there are no obvious signs of pain or discomfort in these cases. But there may be both tell-tale evidence (such as petechiae) as well as a congested, bluish appearance to the face.²

¹ Stapczynski J, Strangulation Injuries, *Emergency Medicine Reports* 2010;31(17):193-203.

² McMaster A, Ward E et al, *ibid*, p.61: "Half of the suicidal cases had a prominent congested and dark blue (livid, 'cyanotic') face."

Section 1: Last Acts: 2. Compression

The eminent pathologist Cyril Polson performed experiments to confirm that the carotid artery is appreciably obstructed by a ligature under low tension. His tests showed that “7lbs (3.2kg) was sufficient to reduce free flow through the artery to a mere trickle.”¹ Adding that this will “rapidly induce cerebral anoxia and unconsciousness.” Polson goes on to detail examples of self-strangulation (as he calls it) using nylon stockings.² Oehmichen and Auer also detail both internal signs (apparent on autopsy) and external ones.³

What you need

For the tourniquet method:

- Only household equipment is needed although any of the following may come in useful:
- Rufflette is ideal. Stockings, bowtie, rope, flex, window sash-cord or webbing. The type of material used in a ratchet tie-down is quite adaptable and can be purchased easily (you can use almost anything from which you can make a tourniquet loop – be inventive!) Note that some neckties tend to be ‘stretchy’ and are less than suitable; stockings, on the other hand, will only stretch so far. For the workshops, we used many materials, but especially rufflette. This can be purchased from John Lewis’ or haberdashers (it’s used for trimming curtains). You need a width of about 25mm. A very narrow width can be un-

¹ Polson C, Gee D, Knight B, *The Essentials of Forensic Medicine*. Pergamon Press 1985:369.

² Ibid 396-402.

³ Ligature Strangulation, in: Oehmichen M, Auer R, König H, *Forensic Neuropathology and Associated Neurology*, Springer 2005; 14.2.2 (p.298).

comfortable and a very wide strip will be difficult to twist effectively when you insert the stick.¹

- Padding. If you want to obtain one, a foam cervical collar or a section cut from one (buy on the Internet from medical suppliers) is excellent, but almost any padding will do. A fleece headband (see earlier illustration) also works.
- A plastic bag if desired. Large roasting bags (the very large size) are a good choice.
- A broom handle, walking stick, mixing spoon, large pen, sturdy artist's brush, or similar (anything which you can use as a rod, your 'stick' to turn the tourniquet).

Although favourite materials can be obtained in advance (and especially for practice purposes), suitable implements can be found in most situations and environments with a minimum of fuss or trouble. You might even want to make an occasional habit of looking round a new room or environment and thinking, "What would I use?"

For the ratchet tie-down method:

- A ratchet tie down, the sort without hooks
- A bag for extra safety if desired, as above.

General description of what happens

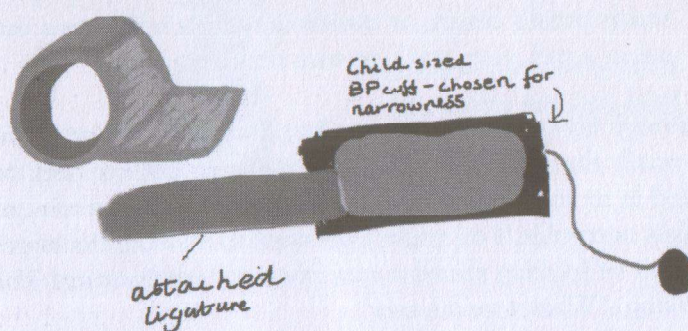
Pressure is applied by one of a number of means such that the arteries and veins in the neck that supply blood to and from the brain are compressed, though without enough pressure to compress the windpipe (In the classic judo 'choke' for instance, which uses the same principle, pressure is often achieved by pulling cross-wise on the lapels). Without a fresh supply of oxygenated blood, the brain then dies within a few

¹ Too wide a ligature can mean the pressure is widely distributed and less effective.
Khokhlov V, Pressure on the neck calculated for any point along the ligature,
Forensic Sci Int 123(2001) 178-181

Section 1: Last Acts: 2. Compression

minutes.¹ (Allow 20 - 30 minutes however to ensure you will not be disturbed.) As with other methods of starving the brain of oxygen, interruption early on could lead to brain damage.

In experiments during workshops (the present author demonstrating on himself), a sensation of light-headedness is preceded by the voice getting fainter and a sound in the ears. No discomfort is experienced.



A novel compression device (suggested by an Exit member) using a child's blood pressure cuff (sphygmomanometer) which is a good width. To make it long enough for an adult's neck, the length has been extended with a Velcro strap.

What is the evidence for compression?

The evidence for compression comes from three main sources. Firstly, in the medical literature, many cases have been reported although it is far less common than other

¹ For a precise anatomical description, please see Iserson K, Strangulation: A review of ligature, manual, and postural neck compression injuries, *Ann Emerg Med* 1984;13:179-185, p.181. Iserson also postulates (p.182) that loss of consciousness due to initial venous compression causes the body to go limp, and muscle tone in the neck to be decreased, thus increasing pressure on the arteries.

methods of asphyxia. For instance, one study found that suicides by means of ligature compression in Berlin occurred about once a year. Nineteen cases over a period of 20 years were reported by Maxeiner & Bockholdt.¹ Similarly in a study of asphyxial deaths in Turkey, ligature deaths appear although accounting for less than three per cent of the total.² A large number of cases are described and illustrated in the literature.³

Secondly, in the academic literature concerning sexual deviance, many cases of auto-erotic asphyxiation are known. This seems strange at first, but they are relevant inasmuch as the same technique is employed, compressing arteries to stop oxygen to the brain, although with entirely different intentions. One partner applies pressure to the other's neck to obtain a 'high' by partial stopping of oxygen to the brain, or self-induced compressions for the same purpose. Fatalities occur when the pressure is continued for too long. The quantity of documented cases enables greater study of the physical process by which anoxia is achieved painlessly.

Thirdly, the technique used by martial arts experts (and for some time the police) of applying pressure to an opponent is well understood. The 'lateral vascular neck restraint' (or 'sleeper hold') was once a widely taught choke in law enforcement, performed from behind by putting an arm around

¹ Maxeiner H, Bockholdt B, Homicidal and suicidal ligature strangulation—a comparison of the post-mortem findings, *Forensic Science International* 2003;137(1):60-66.

² Azmak D, Asphyxial deaths: a retrospective study and review of the literature, *Am J Forensic Med Pathol.* 2006 Jun;27(2):134-44.

³ Polson C, Gee D, Knight B, *The Essentials of Forensic Medicine.* Pergamon Press 1985, pp395-405.

Section 1: Last Acts: 2. Compression

the neck with the crook of the elbow over the midline of the neck. By pinching the arm together while assisting with the free hand, the carotid arteries and jugular veins would be compressed on both sides of the neck. Correctly applied, this caused unconsciousness without putting any pressure on the airway. In 1981, a class action suit was brought against the City of Los Angeles over fatalities connected with carotid artery control holds. Whereas judo practitioners are expert at not continuing the choke long enough to cause death, police were generally less skilled.

Inexpert application of a choke hold is also believed to have caused cardiac arrest, particularly in someone with underlying heart disease (there is some evidence showing that a reflex action alone from pressure to the vagus nerve can cause death in this manner). *Prahlow*, for instance, makes mention of the 'carotid body,' a specialised group of cells within the wall of the carotid artery that, when stimulated, can result in significant changes in heart rhythm and rate, as well as blood pressure.

A 'blood choke,' or carotid restraint, specifically refers to a chokehold that compresses one or both carotid arteries and/or the jugular veins without compressing the airway, causing a hypoxic condition in the brain. Regardless of who the opponent is, a well applied blood choke leads to unconsciousness in 4-10 seconds, and if released, the subject usually regains consciousness in double the time the choke was applied after he had blacked out (e.g. a choke applied for fifteen seconds after the person passed out results in the person regaining consciousness 30 seconds later). Applied for longer, they are lethal. In ordinary language, a person passes out when the brain doesn't receive oxygen. If the deprivation is continued, death results. Compressing the arteries requires a

fraction of the pressure to compress the airway in the throat. This is also seen in the difference between traditional manual strangulation and properly applied blood chokes. The latter require little physical strength, and can be applied successfully by a comparatively weak person. There are many cinematic depictions if you want to visualise the difference. Old James Bond movies will have the secret agent or the villain simply applying fingertip pressure to points on the neck until the victim faints and slides to the floor. Similarly the Japanese film *In the Realm of the Senses* depicts erotic asphyxiation between lovers – the pressure applied to the neck generally stopping short of unpleasant. It is not more pressure that is needed to cause death – simply a longer time period. (For those considering these films, the Japanese movie is a tasteful, critically acclaimed and award winning film – but it is also very sexually explicit.)

Finally there are well-documented cases of ‘choking game’ deaths. These involve youths seeking a brief euphoric state caused by cerebral hypoxia.¹

The method of applying a tourniquet and positioning it on the neck to cause minimum discomfort was known as early as the first part of the nineteenth century. “Fleischmann placed cords round his own neck between hyoid bone and chin, tied them tightly, sometimes at the side, sometimes at the back, without respiration being interfered with, because there was no pressure on the air passages.”² His experiment lasted two

¹ see for instance, Toblin R, Paulozzi L, Gilchrist J et al, Unintentional strangulation deaths from the ‘choking game’ among youths aged 6-19 years - United States, 1995-2007, J Safety Res 2008;39(4):445-8.

² Tweedie a (ed) A System of Practical Medicine Vol III, Whittaker and Co 1840, p.233. The chapter on Asphyxia gives extensive descriptions of different types of compression both from experiment and pathology.

Section 1: Last Acts: 2. Compression

minutes, whereas when he tied the cord over the larynx he could only manage it for half a minute.

It was first brought to the author's attention by judo practitioners writing in saying how it was 'the simplest form of suicide' and explaining the technique of judo holds that can be readily adapted for self-inflicted, painless asphyxiation. But it was only during work for his Masters degree at Glasgow University that a pathologist alerted him to the high incidence in the pathology literature, conveniently disguised. As one police surgeon writes (Henry, 1966), "The confusion and embarrassment felt by a person discovering a body who has died through sexual asphyxia is likely to be considerable. Attempts may be made to disguise the nature of the death to medical attendants and to investigating police officers." A review of published studies soon confirmed both the prevalence and method used. The number of reported and well-documented cases is now very considerable.

Typical medical literature cases examined

1. A woman aged 73 was lying full length on the floor of a bedroom, which she shared with another patient in a nursing home. The bed clothing had been thrown back in a manner consistent with getting out of bed. There were no signs of any struggle. She was dressed in a nightgown and a brown stocking was round her neck; the fellow of a pair was seen suspended over the head of the bed. The stocking was applied with a half-knot at the nape on the first turn and with another half-knot at the front of the neck. The first turn was tight, but the second, although close to the first, was easily released. There were no other signs of violence, but a little bleeding, which produced a small stain 1 in. in its diameter, had occurred from the nose; the stain

was directly below her nose. Her face and neck, above the ligature, were congested and of purple colour. Bleeding had occurred beneath the conjunctivae [eyelids], but petechial haemorrhages [pinpoint haemorrhages often found in asphyxia]¹ were not seen in the skin of the forehead and face. The tongue protruded, but was not bitten; she had dentures, but these were on her bedside table.

2. In one case, however, a 53-year-old man succeeded . . . He wrapped twine around his neck 35 times, tied a knot and tightened it. He then bent forward on his knees with his head down, which increased his neck circumference,² and thus, pressure from the twine; this is the posture in which he was found. Since this is an unusual position, the police were initially suspicious. However, there was no internal damage to the fairly delicate anatomical structures in the neck, a fact consistent with suicide, but not murder.
3. A 70-year-old-man was found dead in his room, a piece of belt-like cloth wrapped around the neck, knotted, and tightened by a walking stick. He was found lying on the bed, with his feet touching the floor. His hand was still on the walking stick which was seemingly used by him for a tourniquet effect. This case study included photographs of the diseased

¹ "A petechia is a pinpoint, nonraised, round, purple or red spot (<2 mm or 0.125 in.) that results from capillary rupture." Shkrum M, Ramsay D, *Forensic Pathology of Trauma*, Humana Press 2007: 67

² Compare: "the action of bending forward caused further constriction which would only increase as the decedent lapsed into unconsciousness and continued to fall forward" Frazer M, Rosenberg S, A case of suicidal ligature strangulation, *Am J Forensic Med Pathol* 1983;4(4):351-354.

Section 1: Last Acts: 2. Compression

with the tourniquet still in place, reported in the American Journal of Forensic Medical Pathology (Atilgan, 2010).

4. There are three reported cases of compression suicide using cable ties. One used a tool to tighten the cables. Compression can be an emergency method if the method of first choice is unavailable, and the three cases quoted used no padding (with a tightening tool, the cable ties could be applied very quickly). For more considered self-deliverance however, a degree of padding would be comfortable. In one case, the man was not able to tighten the cable ties sufficiently by hand and finished the act using a leather belt.¹
5. Two recent cases (Tzimas 2014) used what instinctively appear to be a comfortable method: gymnastic bands. The authors of the report point out that the ligature must be relatively broad and soft, rough enough to avoid slipping, and/or elastic in order to maintain further compression after the person has lost consciousness. The use of talcum powder is recommended to prevent sticking together.

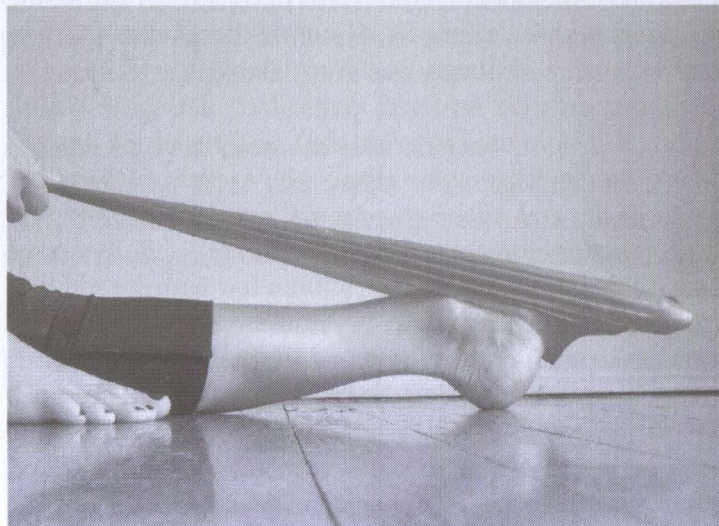
Gymnastic bands are a commonplace means of exercise. These long, wide elastic strips are usually made from natural rubber latex or synthetic rubber and are available in different 'strengths' (degrees of elasticity), usually colour-coded. They are very strong, suitable for a wide variety of stretching exercises, and promoted as products for sports, rehabilitation and

¹ Sorokin V, Persechino F, deRoux S, Greenberg M, Suicidal ligature strangulation utilizing cable ties: a report of three cases, Forensic Sci Med Pathol 2012;8(1).

Five Last Acts

fitness. They are also convenient for exercise when travelling. There are many brands available. In the cases studied, one had used a *Thera-Band*[®] and the second had use a *Deuserband*[®]. The main difference between a *Thera-Band*[®] and a *Deuserband*[®] is that the latter forms a loop.

In the first case, the woman had taken a mild sedative. The bands had not caused disfigurement about the neck although a band of pale skin was evident in one case.



Gymnastic bands are a commonplace item for exercise and sports fitness and arouse no suspicion. They are colour-coded for their degrees of elasticity and widely available from sports shops or online.

Section 1: Last Acts: 2. Compression

The use of gymnast bands for compression is not one that has been tested and experimented with in Exit workshops yet; but suggests a potentially promising method with a high comfort factor. It lacks the one-size-fits-all associated with some self-deliverance methods. Even the selection of a band requires an estimation of one's own strength when stretching and tying it. Some very ill people will not have sufficient strength to use a gymnast band. Ligature compression seems to depend very much on working out what is right *for you* and understanding how it will work.

There are many more case histories, often with ingenious variations. Additionally, the case histories in autoerotic asphyxiation show examples of unintentional death.¹ Most involved males, although one study¹ looked at differences where women were involved, particularly noting how neck padding had been used to avoid chafing. There is no need to go into too much graphic detail (the sample of literature quoted at the end of the chapter will provide the necessary documentation for the serious researcher). All the cases involve a degree of neck compression, a few with the addition of a plastic bag. One particular amusing case (amusing of course except for the deceased and those who knew him) is perhaps worthy of mention to give the gentle reader an idea. The man in question had rigged a complex system of pulleys to apply pressure to the neck, compressing the arteries and producing a 'high' whilst indulging in solitary sexual activity. To tighten the ligature, but not to a deadly degree, he had attached the pulley to a garden lawnmower. A stake in the

¹ Berman A, Maris R, Silverman M, Comprehensive Text Book of Suicidology, Guilford Press 2000, p165, suggest up to 1,000 deaths annually in the U.S. alone.

lawn prevented the power lawnmower from going too far. Except it rained, and the stake came loose . . .

How quickly does it work?

Like helium, compression works by starving the brain of oxygen and takes no more than a few minutes.² Occasionally fatal cardiac arrest can be triggered at the same time. This is due to 'reflex vagal inhibition' – a mechanism that may sometimes leap into action as the vagus nerve in the neck is depressed, particularly in the elderly or if there is some underlying heart disease. Studies using an apparatus causing rapid carotid occlusion and quoted by *Oehmichen et al* demonstrated loss of consciousness in seven seconds. Ten seconds is generally quoted.³ One should ensure a minimum of twenty minutes without possibility of being disturbed.

Are there any unpleasant side effects?

There may be slight discomfort from the pressure on the neck, though this is not enough to interfere with breathing. As the blood supply to the brain is interrupted, there is a sense of

¹ Byard RW, Hucker SJ, Hazelwood RR, Fatal and near-fatal autoerotic asphyxial episodes in women. Characteristic features based on a review of nine cases, *Am J Forensic Med Pathol.* 1993 Mar;14(1):70-3.

² "Death may be rapid and is probably faster than manual strangulation" Strangulation by ligature, in: Cowan S, Hunt A, Mason's Forensic Medicine for Lawyers, Tottel Publishing 2008; p.201.

³ "hypoxia or ischaemia and unconsciousness occurs within 10 seconds of interruption of the cerebral blood supply": Walallawita L, Brainstem Death and Organ Donation, *Sri Lankan Journal of Anaesthesiology (CME Lectures)* 2009;17(2):95-98, p.95. The brain normally dies within a few minutes without oxygen. The figure of 20 minutes is based on the longest known time that it has ever been possible to revive someone after the flow of oxygenated blood has been stopped, which is 9-14 minutes (Saukko P, Knight B, Fatal pressure on the neck, Chapter 15, In: Knight's Forensic Pathology 3rd Ed, Hodder Arnold 2004, p.369.)

Section 1: Last Acts: 2. Compression

dizziness or fainting, followed by unconsciousness and death. Judo practitioners have described their experience of losing consciousness from compression-technique judo holds as 'quite pleasant', like controlled fainting. This tallies with the reports of brief euphoric state caused by cerebral hypoxia in studies of youths playing the 'choking game.' Photographs of persons who have ended their life by compression, such as those reproduced in this chapter and in other studies¹ show the deceased peacefully at rest with the ligature in place. The difference in length between the tightened ligature and the uncompressed neck is quite small – for instance a tightened ligature of 30cm on a neck of 35cm.

If the tourniquet is tightened too slowly there may be a swelling sensation in the head. This is a result of applying enough pressure to compress the veins but not enough to compress the arteries, and generally happens when people turn the tourniquet very slowly. It means the blood supply *from* the brain is blocked but not the blood supply *entering* the brain. It will be just as lethal, but slightly less comfortable – at least until consciousness is lost. To avoid this, simply turn it a little faster until the 'dizzy point' or required pressure is reached.

A note on psychological elements

While helium and compression are equally quick, compression has the advantage of easy-to-find materials and could be put into practice while confined to hospital. Yet there is a different feeling between turning a tap at arm's length and doing the final action close to one's head. One is like flicking a

¹ eg Di Nunno N, Costantinides F, Conticchio G, et al, Self-Strangulation: An Uncommon but Not Unprecedented Suicide Method, *Am J Forensic Med Pathol* 2002;23(3):260-263.

switch – like diving into water as opposed to wading out into the ocean. The other relies on repeated turns until the loss-of-consciousness point is reached. Additionally, we tend to associate our sense of self somewhere in the head, where four out of five sense organs are located. One workshop participant contrasted “doing something with a helium tank” with the act of compression which *feels* more like, “You are doing it to *yourself*.” The result is that it might take more courage to use compression – but such things are relative if one is suffering from an unbearable and unrelievable condition.

Checklist:

- You need two or three items: something you can make a strong loop with, and something you can use to tighten the tourniquet. Make a list of suitable household items. Get into the habit of looking around or imagining yourself in other situations such as hotels, nursing homes, or on holiday – what would you be able to use in an emergency? You will find there are types of material that are more comfortable, but stockings are fairly easy to obtain at any hour of the day or night (for instance, from 24-hour petrol stations). People have used belts, suspenders, shoelaces, scarves, handkerchiefs, neckties, shirtsleeves, pantlegs, and undershirts, among many other things. Shop around for a suitable roasting bag or similar.
- If using an elasticized material (such as stockings or tights), make the loop the size you want when the material is at its maximum stretch.
- A fraction of the pressure that would compress the windpipe is needed to compress the carotid arteries (these supply oxygenated blood to the brain). Avoid placing pressure on the windpipe though by keeping the loop higher around the neck rather than lower down. Padding

Section 1: Last Acts: 2. Compression

may be used for extra comfort – find out by experimenting with different loops and see which ones are comfortable without padding (don't cut into the skin) or which ones need padding.

- Practice making the tourniquet on your thigh first, rather than your neck. This allows you to see what you are doing. Make sure you can do the knot easily.
- When you come to practice the tourniquet around your neck, maybe have a pair of scissors handy to cut the practice stocking (or cord) should you need to.
- A wooden kitchen spoon is excellent for practice. Try turning it until you can feel the pressure (but not causing you to feel dizzy or faint). See how it catches on the collar bone or jaw. Decide if turning it in one direction or the other feels to work better for you.
- The tourniquet 'lever' can be placed at any point, but at the side and towards the front of the neck is perhaps easiest and most comfortable – and also positioned well to catch on chin or collar bone. (Do experiment – it is the quickest way to understand it!)
- The pressure needed for self-deliverance is the same pressure that is needed to cause you to become dizzy and faint, so exercise due caution during your dress rehearsals.
- If you experience a swollen feeling in the head while practicing, start again but tighten the tourniquet more quickly.
- Remember, keep the tourniquet high up on the neck to minimize uncomfortable pressure on the windpipe and maximise pressure on the carotids.
- Make sure the knot is secure and does not slip.
- Ensure the fitted loop is sufficiently distant from the neck (about two or three inches) to allow the 'stick' (pen, spoon, etc) to be inserted and turned. You need to be able

to turn the stick like the hands of a clock to tighten the tourniquet.

- Ensure the loop isn't *too* big. Otherwise you will end up turning it for a long time to make it tight enough. By the time you feel the pressure on your neck, the twists in the loop will have become very unwieldy.
- Practice until you can do it comfortably, effectively and safely. Practice very carefully at first, especially if practicing on one's own. You can go almost to the 'dizzy point' and no further.
- You do not have to tighten the tourniquet to a dangerous degree in dress rehearsals. The loop will acquire a natural tension so you can experience the stick catching against the jaw or shoulder-blade.
- Everyone's physical dimensions are individual, so experiment. For some people turning it clockwise will be best, for others anti-clockwise. If you have a very pronounced jaw, it will catch differently. But it works for everyone and there is nothing very complicated about it. This whole chapter is describing a process that can be demonstrated in a matter of seconds.
- If you want to experience the 'dizzy point' when you are practicing alone, simply apply pressure at the pulse points, as explained (in the event of fainting, your hands fall away so you are not in danger). This is *not* recommended as a regular practice though. If you are in poor health, exceptional care is needed so as not to trigger the vagal reflex and you should *not* go as far as making yourself dizzy in a dress rehearsal.
- It is not necessary to be able to find a pulse for the technique to work. Some people's pulse is more pronounced than in others.

'Amazon' possible shopping list

- **Webbing tape** – 25mm wide cotton webbing tape (similar to rufflette)
- **Make-up brush** – or anything else that is your desired length for comfort and convenience
- **Ratchet tie down quick release** – (check the picture to make sure it is not the sort with hooks!)
- **Gymnast band**



Personalising your exit? The photograph shows one of the sturdier adjustable meditation belts used in some forms of yoga. This particular belt might be too wide for some people with shorter necks. The buckle on this one doesn't seem to slip – other belts may vary.