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(Review of GSA curriculum (January 2011) Page 2 of 22 Dr Anthony Bleetman November 2011)

INSTRUCTION

I have prepared medical risk assessments of previous versions of the General Services Association's core curriculum syllabus. The first of these was in April 2006. I have been asked to review the latest (January 2011) version of the curriculum. I have attended a number of demonstrations of skills prior to preparing previous reports. In the preparation of this report, I have reviewed the syllabus and not attended any demonstration of skills as I am advised that there have been no major changes.

RESUMÉ

I am in full time active clinical practice as Lead Consultant in Emergency Medicine at the North West London Hospitals NHS Trust.

I hold the position Honorary Clinical Associate Professor at the University of Warwick Medical School.

I completed medical school in 1989. I trained on a surgical rotation in Glasgow and received the FRCSEd in 1993. I commenced higher specialist training in Accident and Emergency Medicine in 1994 and was appointed Consultant in Accident and Emergency Medicine at Birmingham Heartlands Hospital in 1996. The hospitals evolved into a Foundation Trust incorporating three hospitals and I served as clinical lead for Emergency Medicine at Good Hope Hospital until May 2010 prior to moving to London to assume the lead for Emergency Medicine at North West London Hospitals NHS Trust.

I received a PhD in Occupational Health from the University of Birmingham in 2000.

I direct Advanced Trauma Life Support courses and regularly instruct on other accredited life support and resuscitation courses.

I served as Clinical Director for HEMS for West Midlands Ambulance Service and continue to fly on air ambulances providing an emergency medical and trauma service. In 1992, I was awarded the Diploma in Immediate Medical Care by the Royal College of Surgeons of Edinburgh. In 2003, I was awarded the Queens Golden Jubilee Medal for my pre-hospital emergency work.

I have written and exercised multi-agency major incident plans. I sit on government advisory committees for disaster and emergency planning.

I was awarded my PhD by the University of Birmingham for the work on developing body armour for the Police. This arose from my development work for the Home Office and the Police Federation on officer safety programmes, addressing protection from knives and bullets. I continue to work for the police on these programmes and am the first doctor to qualify as a police instructor for unarmed defensive tactics, safe prisoner restraint, handcuffing, tactical communication skills, in incapacitant sprays and knife defence. Through this interest, I have been able to offer opinions on use of force, and injuries sustained during arrest and detention.

I have been involved in developing strategies to protect health workers against aggression and violence in the Health Service. I have completed studies for the Department of Health and other national bodies to identify ways of improving staff and subject safety. I am engaged in developing safe physical interventions and effective training strategies across a number of agencies.

I have published numerous articles in peer-reviewed professional journals.

BACKGROUND

The GSA core syllabus is designed for training the trainers who go on to deliver selected skills across a range of sectors including health care, secure units, education, community residential units, mental health, lone workers and children's services. I understand that local trainers select skills from the package that they consider appropriate for the specific work environment.

The efficacy of specific skills is discussed at refresher training sessions.

The fitness of staff to train is determined locally by Occupational Health. Trainers refer trainees to Occupational Health where there is any doubt about their fitness to participate in training sessions.

Skills involving the deliberate application of pain are not included in the syllabus as these are considered to be ethically unsound. It is acknowledged, however, that pain compliance may sometimes be used operationally; staff are never told not to use pain compliance skills.

I am advised that mats are used in the training environment for ground work.

MEDICAL RISKS OF SKILLS IN THE CORE SYLLABUS

General

Any and all physical interventions may result in injury. Injury can occur from: slips; trips and falls; failure of the skill; escalation of violence; obstacles and hazards within the operational environment; the nature of the skill, and any specific vulnerabilities or conditions of both staff and subjects.

Injury will inevitably occur in some operational situations where there is a need to intervene to prevent imminent violence or to terminate a violent episode. The skills selected for these situations should have the best possible safety profile in comparison to any other skills that might be executed in the same situation for the same purpose.

A number of medical conditions may precipitate unintentional aggression and violence. These include: epilepsy; diabetes; drug effects; alcohol; thyroid disease; dehydration and other metabolic disorders and a number of psychiatric and behavioural conditions. Staff and trainers require training in this area. Staff need to be made aware of service users' individual triggers and antecedents to violence and individual care plans.

Staff may be vulnerable to injury in both the training and operational environments due to: individual constitution; fitness; musculoskeletal disorders; obesity; cardiovascular and neurological disorders; stature; gender; psychological vulnerability; individual personal history; physical hazards in the operational environment; pregnancy and recent injury. They may also be injured if the operational situation escalates or if the skills fail.

Service users may be vulnerable to injury due to: stature; gender; physical and mental constitution; age; development (physical and psychological); mental illness; special needs; recent injury; musculoskeletal, cardiovascular and neurological disorders; individual previous history; physical disability; exhaustion; effects of medications; and the hazards within the operational environment.

Restraint skills may be relatively safe at the moment of deployment, but if the subject is not adequately monitored, there is a real danger of restraint-related injury or death. This is a common finding in many deaths in police custody. Staff and trainers need very specific training in this respect.

The predictable risks of each skill within the GSA core syllabus are presented. These cannot be exhaustive as any specific vulnerabilities of both staff and subjects may render them susceptible to adverse outcomes by virtue of their condition or exceptional operational circumstances.

It is not possible to accurately quantify the medical risks for any particular skill as this will depend in a number of factors including: relative size, strength and gender of staff and subject; accuracy of executing skill; the dynamics and environmental constraints of the situation; physical and mental constitution of staff and subject; escalation/de-escalation of the situation and personal vulnerabilities of both parties. The risks for each skill are therefore classified as *likely*, *possible* and *remote*. These cannot be quantified further, but serve to inform managers and GSA trainers of the relative risks of each skill.

Appropriate reporting systems will, in time, inform the organisation and its trainers about safety of each skill in terms of injury rates, success rates and adverse or positive outcomes.

Where possible, specific cautions are presented.

Risks to staff and subjects by physical intervention

Warm up					
Risks to staff			Risks to subject		
Likely	Possible	Remote	Likely	Possible	Remote
Nil	Minor joint and soft tissue strain of no long-term significance	Unmasking of previously undiagnosed musculoskeletal and cardiac disorders.	N/A	N/A	N/A

1a Parallel wrist grab 1b Parallel wrist grab assisted 1 Diagonal wrist grab 2 2 –handed grab to single wrist 4 2-handed grab to both wrists					
Risks to staff			Risks to subject		
Likely	Possible	Remote	Likely	Possible	Remote
Nil	Minor soft tissue injuries, joint strain in upper limb, slips and falls from weight transfer, scratches from fingernails.	Upper limb tendon rupture and fractures, rotator cuff injury (if gripped hard), lower limb muscle and joint injury from rapid weight transfer.	Nil	Injury from slips, trips and falls.	Damage to thumb, fingers and wrist, upper limb joint and tendon damage.

<p>5 General release option 1 – single handed grab from front</p> <p>6 General release option 2 – double handed grab from front</p> <p>7 General release option 3 – single/double handed grab from front</p> <p>8 2 handed grab</p> <p>9 1&2 handed front hair grab (guide down)</p> <p>10 1 handed hair grab (V motion)</p> <p>11 1 handed hair pull from behind</p> <p>12 2 handed hair pull from behind</p> <p>13 1&2 handed grab from behind</p>					
Risks to staff			Risks to subject		
Likely	Possible	Remote	Likely	Possible	Remote
Minor scalp injury from hair pull/neck chafing	Minor soft tissues injuries, joint strain in upper limb, slips from weight transfer.	Upper limb tendon rupture, rotator cuff injury (if gripped hard), lower limb muscle and joint injury from rapid weight transfer, neck strain. Rotational strain to back. Knee injury from rotational load. Chafing to neck and upper body and entrapment from clothes. Strangulation if failure of technique, head injury from clash of heads. Rotational strain to neck and back.	Nil	Injury from slips, trips and falls. Upper limb joint and tendon strain.	Damage to thumb, fingers and wrist, upper limb joint and tendon damage. Damage to thumb, fingers and wrist, upper limb joint and tendon damage. Scratches from fingernails. Upper limb joint injury and fractures. Head injury from clash of heads.

<p>14 Bear hug from behind level 1</p> <p>15 Bear hug from behind level 2 (arms pinned)</p> <p>16 17 Bear hug from behind arms free</p>

Risks to staff			Risks to subject		
Likely	Possible	Remote	Likely	Possible	Remote
Nil	Minor soft tissues injuries, joint strain in upper limb, slips from weight transfer. Soft tissue injuries to the neck. Upper limb soft tissue injury. Scratches from fingernails	Rotational strain to back. Knee injury from rotational load. Head injury from clash of heads. Strangulation if failure of technique	Nil Secondary injury from fall or collision	Head and other injuries from contact with the wall. Injury from slips, trips and falls. Upper limb soft tissue injury. Scratches from fingernails. Upper limb joint and muscle injury. Minor chest wall injury.	Head injury from clash of heads. Upper limb joint disruption. Fractures. Back, knee and ankle joint injury.

18 Rear forearm strangle					
Risks to staff			Risks to subject		
Likely	Possible	Remote	Likely	Possible	Remote
Nil	Injury from falls. Jaw and throat injury.	Neck injury	Secondary injury from fall/collision	Upper limb soft tissue injury. Scratches from fingernails. Upper limb joint and muscle injury.	Upper limb joint disruption. Fractures. Back, knee and ankle joint injury.

19 Slide head lock (pulled in)					
Risks to staff			Risks to subject		
Likely	Possible	Remote	Likely	Possible	Remote
Nil	Neck and throat	Cervical spine fracture/disloc	Secondary injury from	Upper limb soft tissue	Upper limb joint

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	injuries. Spine and lower limb joint injury from rotational load.	ation (more likely if technique fails)	fall/collision	injury. Scratches from fingernail. Upper limb joint and muscle injury.	disruption. Fractures. Back, knee and ankle joint injury.
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20 Punches round house/slap					
Risks to staff			Risks to subject		
Likely	Possible	Remote	Likely	Possible	Remote
Minor upper limb soft tissue injury	Upper limb fractures	Neck, back and lower limb joint injury from rotational load	Minor upper limb soft tissue injury.	Secondary injury from fall/collision.	Neck, back and lower limb joint injury from rotational load.

21 Upper cut 22 Straight punch 23 Straight front kick 24 Cover and go					
Risks to staff			Risks to subject		
Likely	Possible	Remote	Likely	Possible	Remote
Nil	Abdominal/chest injury, injury from rotational load to spine and lower limbs	Commotiocordis. Tendon injury upper limbs. Secondary injury from fall.	Secondary injury from fall/collision	Minor upper limb soft tissue injury.	Upper limb fractures and joint disruption Injury from rotational load to spine and legs

25 Side strangle on floor (universal)					
Risks to staff			Risks to subject		
Likely	Possible	Remote	Likely	Possible	Remote
Chafing to neck	Rotational hip and knee injuries. Wrist strain	Throat injury. Back and neck injuries from fall. Head injury from contact with ground. Wrist structural damage.	Secondary injuries from fall. Minor knee injuries	Forearm soft tissue injury, upper limb joint strain. Chest injury, rib/sternum fractures. Lower back injury. Impact knee injuries	Upper limb joint and bone disruption. Commotiocordis Abdominal/groin injuries from contact with staff member's leg

27, 28 Bites and scratches – soft tissue injury is likely for staff members. Arrangements should be in place to ensure that staff have Hepatitis B and Tetanus protection and that there is a clear policy for rapid access to emergency medical care for HIV prophylaxis after contact with high risk patients. Predictable injuries for subjects include soft tissue injuries to the face, jaw and dental injuries. Both parties are at risk of injury from falls. The subject may be at risk of neck injury if the neck is extended during escape.

29 Friendly come along without contact					
30 Friendly come along without contact Stage 1					
31 Friendly come along Stage 2					
32 Friendly come along Stage 3					
Risks to staff			Risks to subject		
Likely	Possible	Remote	Likely	Possible	Remote
Nil	Nil	Nil	Nil	Nil	Minor soft tissue injury to upper limb for the latter two skills

33 Figure of four hold Stage 4					
Risks to staff			Risks to subject		
Likely	Possible	Remote	Likely	Possible	Remote
Nil	Nil	Secondary injuries from trips and falls.	Nil	Minor soft tissue injuries to chest and lower legs.	Chest movement restriction if prolonged or after extreme physical exertion. Chest wall injury if applied vigorously.

34 Thumb in palm hold					
Risks to staff			Risks to subject		
Likely	Possible	Remote	Likely	Possible	Remote
Nil	Thumb extension and finger injury. Soft tissue injury lower legs.	Secondary injuries from trips.	Nil	Minor soft tissue injuries lower legs and hands	Trunk flexion may restrict chest wall movement, important if physically exhausted. Spinal strain.

35 Forearm hold 36 Finger and thumb hold 37 Return to FOF 38 double forearm hold 1 staff member 39 double forearm hold 2 members of staff 40 double forearm hold to FOF 41 (a) shield hold					
Risks to staff			Risks to subject		
Likely	Possible	Remote	Likely	Possible	Remote
Nil	Minor soft tissue injuries, slips and falls injuries. Skin wounds from scratching	Thumb and finger injury, rotational knee and back injury	Nil	Minor soft tissue injuries, joint strain, finger injuries	Joint disruption, fractures, posture may impair chest movement and endanger exhausted individuals. Chest restriction may be a concern in 2

Appendix 2e

					staff members holds.
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42 Level 1 planned approach					
43 Level 2 planned approach					
44 level 3 planned approach					
45 single upper arm wrap					
46 Relocation - non compliant					
Risks to staff			Risks to subject		
Likely	Possible	Remote	Likely	Possible	Remote
Nil	Minor soft tissue injuries, slips and falls injuries.	Thumb and finger injury, rotational knee and back injury. Injury from head butting	Nil	Minor soft tissue injuries, joint strain, finger injuries	Joint disruption, fractures, posture may impair chest movement and endanger exhausted individuals. Chest restriction may be a concern in 2 staff members holds.

47 chair de-escalation					
48 chair de-escalation trouble drill					
Risks to staff			Risks to subject		
Likely	Possible	Remote	Likely	Possible	Remote
Minor soft tissue injuries.	Injuries from slips and falls, Biting, head butting. Upper limb injuries.	Rotational knee and hip injuries.	Minor soft tissue injuries.	Joint strain, back and neck injury from forced trunk flexion.	Upper limb fractures, joint disruption upper limb, restriction of chest excursion.

49 Take down to floor – 3 staff and head person					
50 (a, b, c, d) Take down to floor - 2 staff					
Risks to staff			Risks to subject		

Appendix 2e

Likely	Possible	Remote	Likely	Possible	Remote
Nil	Minor soft tissue injuries.	Back strain, thumb and upper limb joint injuries.	Minor soft tissue injuries.	Knee injury, back injury, joint strain.	Neck injury, restriction of chest movement through posture, airway compromise. Monitoring essential. Joint disruption,

51 (a, b) Upper rest to lower rest					
52 Lower rest to upper rest					
53 Floor de-escalation					
54 (a, b, c) Prone position leg hold					
Risks to staff			Risks to subject		
Likely	Possible	Remote	Likely	Possible	Remote
Nil			Nil	Caution prolonged prone restraint	
Remote risk of back and joint injury and soft tissue injuries				Possible neuropaxia and compartment syndrome	

55 (a – l) taking to the floor backwards into supine position					
Risks to staff			Risks to subject		
Likely	Possible	Remote	Likely	Possible	Remote
Nil	Minor soft tissue injuries and joint strains.	Rotational knee injury.	Nil	Joint strain.	Back and neck injury, injury from impact, joint disruption. Restriction of chest movement.

56 (a – c) Separating two patients fighting (standing) 2 staff					
Risks to staff			Risks to subject		
Likely	Possible	Remote	Likely	Possible	Remote
Nil	Minor strains and soft tissue injuries.	Nil	Nil	Minor joint strain and soft tissues injuries	Joint disruption, rotational knee injuries.

57 Leaving via head 58 Leaving with FOF leg hold					
Risks to staff			Risks to subject		
Likely	Possible	Remote	Likely	Possible	Remote
Nil	Minor joint strain.	Joint disruption, rotational knee injury, slips and falls.	Nil	Joint strain, minor soft tissue injuries.	Joint disruption, upper limb neuropaxia, caution prone restraint. Venous obstruction lower limb, rotational injuries hip and knee.

59 stop and rest 60 modified recovery position 61, 62 Turning patients					
Risks to staff			Risks to subject		
Likely	Possible	Remote	Likely	Possible	Remote
Nil	Minor joint and back strains.	Nil likely	<p>Training is required in frequency and quality of subject monitoring, together with advice on calling for help. Specific training in positional asphyxia is required; specifically to address genuine exhaustion from a 'ruse'. No particular injury is likely. Staff will need guidance on decision making for subject who require a rest.</p> <p>Dental and soft tissue injuries are possible.</p>		

63 wrist release from 2 handed bite grab 64 Braced wrist grab 65 Parallel wrist grab 66 Diagonal wrist grab 67 2 handed grab to single wrist
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68 2 handed grab to both wrists					
69 1 & 2 handed grab to neck					
70 2 handed grab to neck					
71 1 handed grab					
72 2 handed grab from front					
73 2 handed grab from behind					
74 Front bear hug					
75 front bear hug					
76 Side head lock					
77 hand release					
78 Finger and thumb bite release					
Risks to staff			Risks to subject		
Likely	Possible	Remote	Likely	Possible	Remote
Nil	Minor soft tissue injuries, joint strain in upper limb, slips and falls from weight transfer, scratches from fingernails . Chafing to neck	Upper limb tendon injury and fractures, rotator cuff injury (if gripped hard), lower limb muscle and joint injury from rapid weight transfer. Neck injury, Injuries from head butting. See previous comments on bite injuries.	Nil	Injury from slips, trips and falls.	Damage to thumb, fingers and wrist, upper limb joint and tendon damage. Neck injury. Dental injury.

79 Front ground attack scenario

80 Rear ground attack (1)

81 Rear ground attack (2)

82 Front astride – arms pinned					
83 Defence against kicks					
Risks to staff			Risks to subject		
Likely	Possible	Remote	Likely	Possible	Remote
Nil	Minor soft tissue injuries, joint strain in upper limb and spine	Upper limb tendon rupture and fractures, lower limb muscle and joint injury from rapid weight transfer and rolling. Head injury	Soft tissue injuries	Injury from falls – back, limb and head injuries.	Major fractures and head injury.

84 Rear elbow hold					
85 Rear forearm hold					
86 Assisting staff in rear forearm hold					
87 Modified single person wrap hold					
88 (a, b) shield holds					
Risks to staff			Risks to subject		
Likely	Possible	Remote	Likely	Possible	Remote
Nil	Minor soft tissue injuries, joint strain in upper limb, slips and falls from weight transfer, scratches from fingernails	Upper limb tendon rupture and fractures, muscle and joint injury from rapid weight transfer.	Nil	Injury from falls. Significant upper limb injuries	Damage to thumb, fingers and wrist, upper limb joint and tendon damage. Head and spine injury.

89 (a) Chair trouble drills					
90 Prone leg hold					
91 Trouble drill URP					
Risks to staff			Risks to subject		
Likely	Possible	Remote	Likely	Possible	Remote
Nil	Minor soft tissue injuries, joint strain in upper limb, slips and falls from weight transfer, scratches from fingernail, bites and headbutting.	Major upper and lower limb injuries, lower limb muscle and joint injury.	Nil	Injury from falls.	Damage to thumb, fingers and wrist, upper limb joint and tendon damage. Lower limb soft tissue injuries and fractures. Caution - restriction of chest movement.

92 (a – d) Takedown backwards					
Risks to staff			Risks to subject		
Likely	Possible	Remote	Likely	Possible	Remote
Nil	Minor soft tissue injuries, joint strain. Injuries from fall.	Rotational knee and spinal injury.	Nil	Joint strain, minor soft tissue injuries.	Back, head and neck injury from impact joint disruption. Restriction of chest movement.

93 – 95 Seclusion exit					
Risks to staff			Risks to subject		
Likely	Possible	Remote	Likely	Possible	Remote
Nil	Minor soft tissue injuries, joint strains. Biting and spitting. Risk of fall.	Rotational knee injury. Back strain	Nil	Joint strain – especially upper limb, minor soft tissue injuries	Back and neck injury, injury from floor contact, upper and lower limb joint disruption and fractures. Restriction of chest movement.

96 Doorway with 2 staff 97 Doorway with head person 98 Stair work 99 Rail work					
Risks to staff			Risks to subject		
Likely	Possible	Remote	Likely	Possible	Remote
Nil	Slips and falls. Minor soft tissue injuries from contact with door frame. Scratches. Hand and wrist injuries	Back and knee rotational loading injuries. Injuries from biting.	Nil	Minor soft tissue injuries from contact with obstacles. Injury from fall. Head injury on obstacles.	Restriction of chest movement, neck injury. Monitoring essential. Back strain.

100 (a, b) Changing holds 101 (a, b) 102 (a, b) Key grabs 103 Clenched fist hold					
Risks to staff			Risks to subject		
Likely	Possible	Remote	Likely	Possible	Remote
Nil	Minor soft tissue injuries, scratches	Back and knee rotational loading injuries.	Nil	Minor soft tissue injuries.	Damage to Upper limb fractures and major soft tissue injuries.

104 (a, b) Trolley hold, securing legs, supporting and securing the head					
Risks to staff			Risks to subject		
Likely	Possible	Remote	Likely	Possible	Remote
Nil	Slips and falls. Back injury	Back and knee rotational loading injuries. Injuries from biting and scratching.	Nil	Minor soft tissue injuries	Restriction of chest movement, neck injury. Monitoring essential. Back strain.

FURTHER RECOMMENDATIONS

1. Staff require a health assessment prior to training: the degree of fitness needs to reflect the rigours of their intended physical skills training package and operational environment. The current health screening requires some development.
2. Standards of fitness for those delivering the training to trainers needs to be determined.
3. Standards of fitness for trainers and staff members needs to be determined for each operational environment.
4. Trainers need to be given clear guidance on minimum standards of fitness for staff in each operational environment.
5. Trainees need to be monitored for injury or exhaustion during and after training.
6. A standardised reporting process is required to evaluate:
 - a. Operational use of skills
 - b. Efficacy of skills (success/failure)
 - c. Injury to staff
 - d. Injury to subjects
 - e. Complaints arising from skills
 - f. Required amendments to training syllabus for each operational environment
7. The reporting process needs to inform the training process and the selection of skills for each operational environment.
8. Training needs to be site – specific to replicate the operational environment in which the skills are to be deployed. The selection of skills must be relevant to that operational environment. This needs to be determined through a reporting process and guided by operational experience in each specific operational environment.
9. Staff should be trained in no more than seven core physical responses in each environment (University of Birmingham study 2001). Training staff in more than seven core physical responses may be counter-productive. These skills need to be selected to reflect the reality of the operational environment.
10. Specific training in recovery and de-escalation from physical intervention, excited delirium and positional asphyxia is essential.
11. A realistic and honest appraisal of pain compliance needs to be reconsidered as timely and appropriate application of pain may terminate violence and prevent greater injury to both the service users and staff. A number of the skills in the current syllabus use joint manipulation and indirectly cause pain to achieve their objective.