

The Value of Defibrillators



HHSEG July 26th 2017

Itinerary

- ▶ Defibrillators - brief history
- ▶ Legislation on first aid provision
- ▶ Defibrillators as part of the First Aid Provision at the University
- ▶ Cardiac Arrest - signs and symptoms
- ▶ Additional things to consider
- ▶ The AED (Automated External Defibrillators) in use

Defibrillators a brief history



When the human heart is stopped by any cause, the pulse ceases to beat, and the patient is pronounced dead. The doctor's duty is to restore the circulation of the blood.

PHYSICIAN INVENTS SELF-STARTER for Dead Man's Heart

As reported by the Medical Times, a new device has been invented which will start the heart of a dead man. The inventor is Dr. W. D. Page, of New York.

When the human heart is stopped by any cause, the pulse ceases to beat, and the patient is pronounced dead. The doctor's duty is to restore the circulation of the blood. This is accomplished by the use of a self-starter, which is a small, portable device, which, when used, will start the heart of a dead man. The inventor is Dr. W. D. Page, of New York.

DR. W. D. PAGE'S SELF-STARTER FOR DEAD MEN'S HEARTS.

Each ready-to-use self-starter contains a battery of dry cells which supply the current for the electric circuit. This is connected with the auricle of the heart, and when the button is pressed, the current flows through the auricle, and the heart starts to beat.

DR. W. D. PAGE'S SELF-STARTER FOR DEAD MEN'S HEARTS.

This life-saving device can be carried with the inventor of it, and when the case is used, the cylinder can quite fit in the same way, when the heart stops.

OCTOBER, 1913.



Background

- ▶ Government backed initiatives to get more AED in the general public
- ▶ AED are now part of the standard training for EFAW and 3 Day First Aid Training programme(2017)
- ▶ Defib implants now being fitted inside pacemakers

Health and Safety (First Aid) Regs 1981

- ▶ As a minimum, a low-risk workplace such as a small office should have a first-aid box and a person appointed to take charge of first-aid arrangements, such as calling the emergency services if necessary. Employers must provide information about first-aid arrangements to their employees.
- ▶ Workplaces where there are more significant health and safety risks are more likely to need a trained first-aider. A first-aid needs assessment will help employers decide what first aid arrangements are appropriate for their workplace.

First Aid Provision

- ▶ Location and remoteness of staff
- ▶ Likely hazards of the workplace
- ▶ Coverage to include all hours of work
- ▶ Provision for employees at work , HSE strongly recommends that employers include the public in their first-aid needs assessment and make provision for them.
- ▶ Necessary training
- ▶ Necessary equipment

First aid Provision - University of Chichester

Provision

- ▶ 2 medical treatment rooms
- ▶ 11 x defibrillators
- ▶ 45 x 3 Day First Aid Trained staff
- ▶ 60 x Emergency First Aid Workers

Coverage for

- ▶ 2 Campuses
- ▶ 800 staff
- ▶ 5600 students
- ▶ Visitors unknown quantity
- ▶ Contractors unknown quantity
- ▶ 24/7 coverage

First Aid at Work INDG214(rev2),HSE

From your risk assessment, what degree of hazard is associated with your work activities?	How many employees do you have?	What first-aid personnel do you need?
Low-hazard , eg offices, shops, libraries	Fewer than 25	At least one appointed person
	25–50	At least one first-aider trained in EFAW
	More than 50	At least one first-aider trained in FAW for every 100 employed (or part thereof)
Higher-hazard , eg light engineering and assembly work, food processing, warehousing, extensive work with dangerous machinery or sharp instruments, construction, chemical manufacture	Fewer than 5	At least one appointed person
	5–50	At least one first-aider trained in EFAW or FAW depending on the type of injuries that might occur
	More than 50	At least one first-aider trained in FAW for every 50 employed (or part thereof)

The Defibrillator at the University

- ▶ Three units originally supplied - units held by caretaking staff/ in labs only
- ▶ Full certified training to selected staff only
- ▶ To be used only by trained staff
- ▶ Incident - feedback
- ▶ Changes to University policy since
- ▶ Now have 11 units covering all identified risk areas

Example



Learning Resource Centre	24
Main Reception	
Otters Restaurant	17
The Hub - Students' Union	18
Accommodation Office	09
The Dome	32
The John Parry Centre	25
Business Incubation Centre	28
St Michael's House	33
The Theatre	27
Music Studio 2 and Mini Gym	19
The Chapel - Reprographics	22
Music Studio I	23
Mordington House	31
The Lodge - Caretaker and Security	34
Pavilion	37
HALLS OF RESIDENCE	
Barbara Smith Halls of Residence	A
Longbrook Halls	B
Charlotte House	C
Pavillion Bungalow	D

	Academic		Residential
	Non Academic		Disabled Access
	Entrance / Exits		Car Parking
	Lift		Bus Stop
	Bus Stop		Cycle Store

Bognor Regis Campus First Aiders January 2017



Bishop Otter Campus First Aiders January 2017

Example

Learning Resources	
Main Reception	13
Otters Restaurant	07
University House	01-05
The ShowRoom	08
The Chapel	17
Tudor Hale Centre for Sport	22
Sports Dome	79
Dance Studios	09-10
Student Union	14
Music Block	19
artOne	16
New Hall	18
Conferencing and Accommodation Office	24
Oaklands House	74
Caretaker & Security	31
The Gatehouse	12
Admissions	80
Media Loans	81
HALLS OF RESIDENCE	
Laundry	30
Ashling House	A
Springfields 1 to 6	B
Hammond 1 & 2	C
Amberley Hall	E
Chilgrove Hall	F
Harting Hall	G
Havenstoke	H
Pinewood	I
Petworth Hall	
Fishbourne Hall	
Duncton Hall	D
Ifold Hall	
Loxwood Hall 1 to 4	
Midhurst Hall	



KEY

Lifts	Academic	Car Park	Motorcycle Parking
Entrances & Exits	Residential	Disabled Parking	Bus Stop
	Non-Academic	Reserved Parking	Bicycle Store
	Restricted Access	30 Minute Bays	Defibrillator trained First Aider

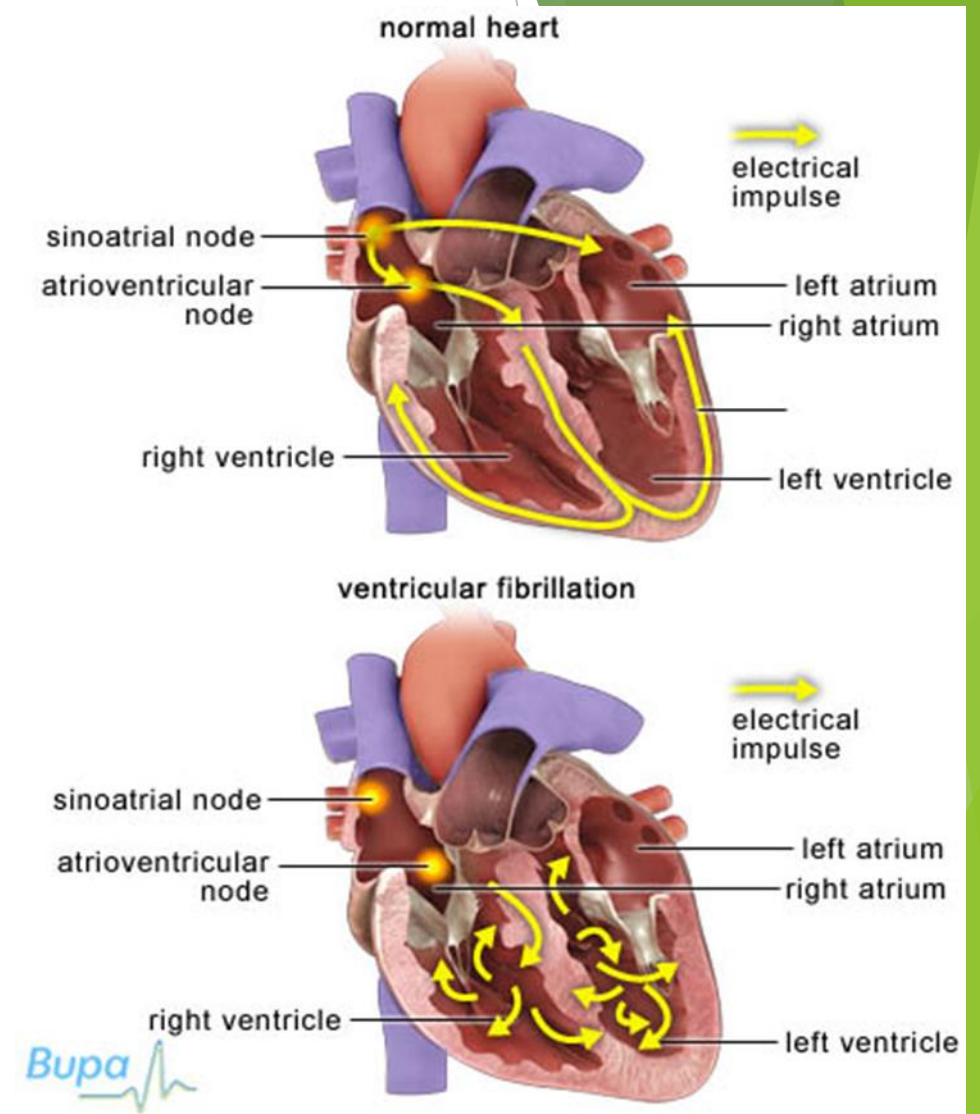
Defibrillator Locations ⚡

Caretakers on 6147 to have one delivered
 Tudor Hale Centre & various Sports Labs 6382
 Learning Resource Centre 6222
 Student Union 6398/6395/6378
 Accommodation Reception 6069

Cardiac arrest and Defibrillation

What is a heart attack

- ▶ When an area of the heart loses its blood supply and dies
- ▶ The dying area becomes unstable and fires off its own electrical impulses
- ▶ This results in the heart quivering chaotically and not pumping blood.
- ▶ This is called ventricular fibrillation



How to recognise a Cardiac Arrest

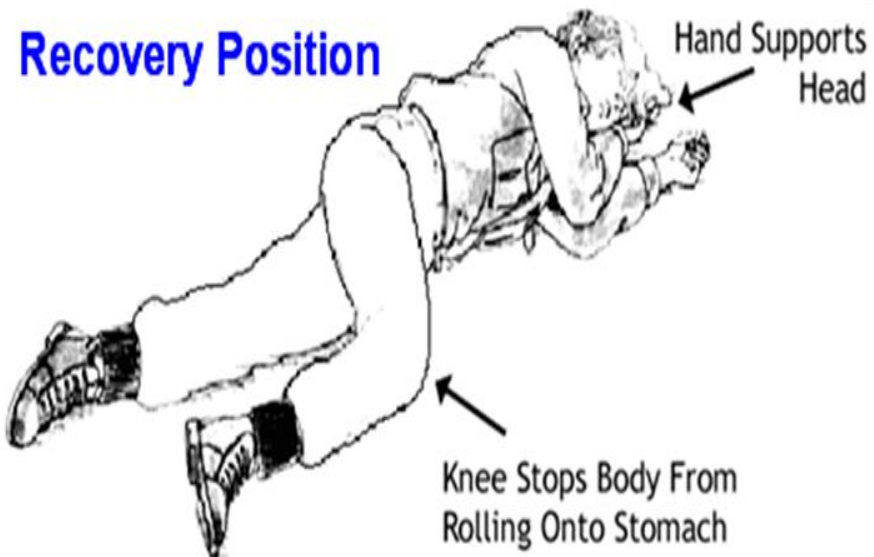
- ▶ Complaint of a persistent central crushing pain that will not go away with rest
- ▶ Pain spreads to the jaw, arm or throat
- ▶ Feeling sick, weak and dizzy
- ▶ Sweating profusely
- ▶ Pale grey colour
- ▶ 30,000 Cardiac Arrests outside of hospital (10% survival rate)

We Fight for every Heartbeat, Our Strategy to 2020, British Heart Foundation, 2014.

A casualty collapses - Chain of Survival

Danger - Response - Airway - Breathing

If breathing and unconscious - place in recovery position



A casualty collapses - Chain of Survival

Danger - Response - Airway - Breathing

If not breathing and unconscious- attempt CPR until an automated external defibrillator (AED) arrives.



The AED

Continue CPR whilst the AED is made ready

Lift the lid

Attach leads to the AED

Attach leads to chest.

- 1 pad to casualty's right collar bone

- 1 pad to the left side, over the ribs

The AED will analyse the heart rhythm

Then shock , if appropriate

Pad Placement

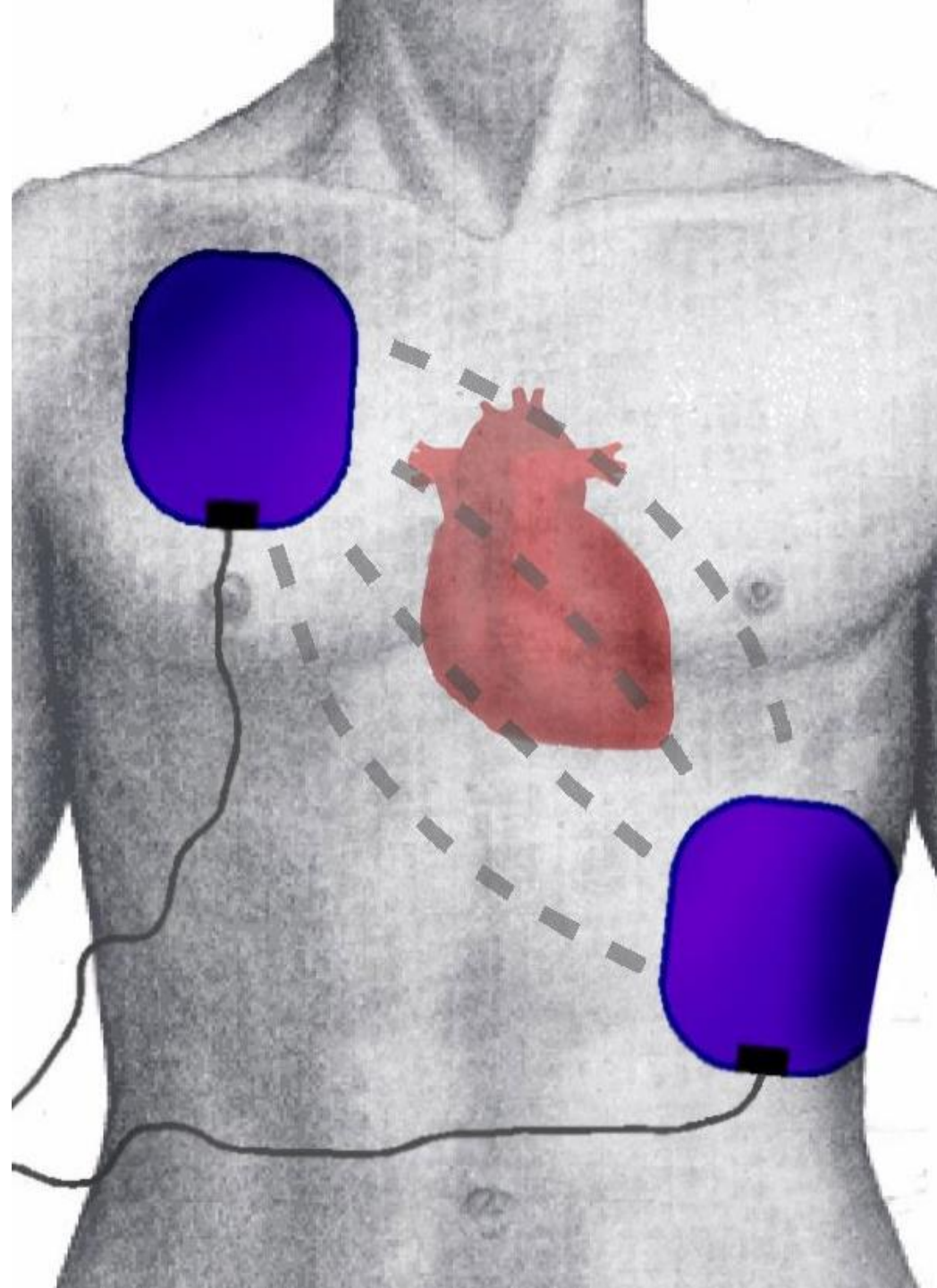
Wet chest

Excessive hair

Pad positioning

Accessories

- ▶ Spare pads
- ▶ Scissors
- ▶ Towel
- ▶ Razor
- ▶ Gloves
- ▶ Resus mask



If shock is advised

Ensure that nobody touches the casualty (shout stand clear)

Push the shock button (if semi automatic) - shock will be delivered

Await further instructions

If a shock is NOT advised

Immediately resume CPR with chest compressions
and breaths

Continue as directed by the voice.

Things to Consider

Safety Considerations

Jewellery

Medical patches

Implanted devices-pacemaker

Highly flammable atmosphere -petrol fumes

Extras needed

Maintenance

Initial costs

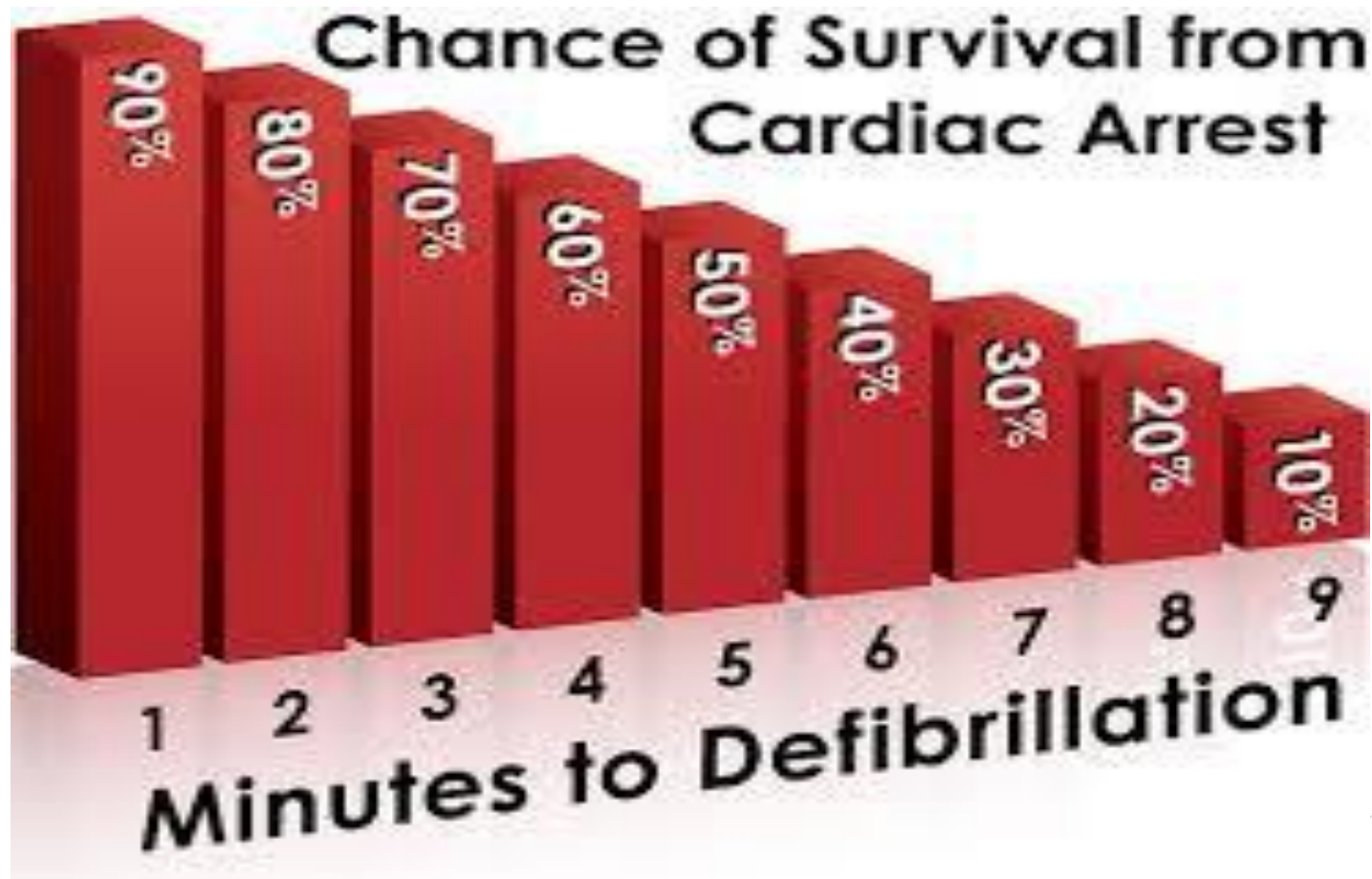
Training costs

Ongoing replacement costs of consumables

Upgradability to present requirements

Fact - Survival Rates

An AED if used in good time saves lives!



Practical with James Corrie



CPR

Any Questions?