

# Foundation Certificate in Care Skills Module 1



# INTRODUCTION

The aim of this course is to provide you with the underpinning knowledge to deliver care in a professional capacity.

Caring for someone in a paid professional role requires many skills and can play an important role in the community.

Firstly, you will need to understand some of the key principles of providing care.

As you follow this course, you will gain knowledge on some of the common medical conditions that affect people and how you can help care for them.

Upon successful completion, you will obtain a certificate in caregiving. This will help you demonstrate to employers that you are a professional caregiver. This course is a starting point for your career. Once you have completed this, it is important that you regularly add to your knowledge and skills by self-studying and learn from experiences you encounter in your work role.

The course is made up of two modules:

 **Module one:** the basics of professional care giving

 **Module two:** knowledge on some of the most frequently encountered medical conditions

To achieve this award, you must successfully complete the assignments for both modules.

Lastly, to care for people requires many skills and a professional attitude to your work. It is a demanding role but it is a very important one. When carried out well, it improves the lives of the people you care for.

## **Module 1**

### **Learning outcomes**

The learner will be able to:

1. Explain what is meant by treating people equally and describe how they will put this into practice.
2. List 5 key principles of care.
3. Describe why a professional image is important and how they will do this in practice.
4. Demonstrate knowledge on dealing with emergencies and the correct treatment.
5. Be able to identify the importance of infection control and describe how infection can be spread.
6. Describe the correct handwashing technique.
7. Explain why good nutrition is important and describe how to support a person to eat and drink.
8. Give examples of proteins and carbohydrates and explain what role vitamins have in a diet.
9. Describe how to carry out a bed bath and explain why privacy is important when providing personal care.
10. Identify the layers of the skin.
11. Describe what is meant by a pressure sore and how they are caused.
12. Identify and list the 4 stages of pressure sore development and the common sites for pressure sores to develop.
13. Explain what can cause pressure sores.

14. State 3 types of injuries caused by moving and handling.
15. Correctly label a diagram of the spine.
16. Identify the 6 steps to good moving and handling.
17. Name 3 functions of the spine.
18. Describe why it is important to encourage the person they are caring for to help when moving and handling them.

## **THE BASIC PRINCIPLES OF CARE**

Some key principles to remember when providing care and support:

You are a professional carer- remember to stay professional at all times. Think of yourself as a professional, not just a carer.

Everything you do must be for the benefit and well-being of the people you support or provide care for. Ask yourself, "Am I doing this for the person? Me? Or the organisation?" The answer should always be **the person**.

Keep an open mind – remember it is not our place to judge. Do not let your own values or opinions cloud your judgement or influence how you treat or behave towards the people you care for.

Respect persons' individuality, diversity and rights at all times.

Ensure you promote and protect the dignity and privacy of the people you care for.

Keep up to date with your studies to help you provide the best care possible for the people you care for. Recognise studying as a valuable tool for improving the care you provide.

Don't be afraid to seek advice, challenge, or report if you think something is wrong or the person you care for is at risk of harm. As a professional carer, you have a duty to protect the people you care for from harm.

Work with others in a constructive and open manner to ensure the people you care for receive the support they need.

### **Creating a Professional Image**

When you work as a professional caregiver, it is important that the people you care for have trust in your abilities. To help build this trust, you need to create the correct image.

Your appearance must always be smart and clean. The manner in which you speak to people must always be polite and respectful. Remember, many will be elderly and it is vital that their dignity is maintained at all times. If people feel respected, it will help develop your professional relationship and make many aspects of care easier for them to accept.

### **Confidentiality**

You must never talk about the person to others that do not need to know about them. Any knowledge you have of their condition or personal life must only ever be shared to ensure the person receives the care they require. This is called confidentiality and is very important when working as a professional care worker.

## **Reliability**

Reliability is very important aspect of being a professional carer. The people you care for need you, and if you are unreliable, they may suffer as a result of this. If you are ill or unable to work, you must let the person or the family know so they can arrange to be cared for in some other way until you are fit to work.

## **Equality, diversity and respect**

When caring professionally, you need to ensure your own views and beliefs do not affect the way you care for people. You will need to remember at all times you are there to help and support them, not to change the way the person wishes to live their life. You need to work in a way that is non- judgemental. Each person you care for is an individual with different life experiences and backgrounds. Your role as a professional carer is to acknowledge these differences and give care in a way that respects the person's way of life, and helps them to remain as independent as possible.

As a carer, you need to find out what the person's likes and dislikes are. The care you provide should be based around this. As you get to know the person, you will be able to help them be cared for in a way that ensures they are happy and one that maintains their dignity and diversity.

## **Record-keeping**

Each person you give care to should have all the details recorded of the care they need. This is important if you are unable to go and should another person visit, they can read what help the person needs and how often.

Each time you visit the person, you should complete a record of what care they have received and any changes to their condition or problems you have noticed. This should be written clearly so it can be easily understood by other people who may need to read the information. This information needs to be accurate and factual. Avoid using words that could be easily misunderstood. The records should be placed in a safe place and out of view, so only people who should read them have access.

## **Personal care**

There are many aspects for personal care that you will need to help people with. When you carry out these tasks you need to protect the persons dignity at all times. Never make fun of a person or pass personal comments on their problems. People do not ask to become ill or elderly, and will find it hard to have people cleanse them or feed them. Study the following to ensure you understand the safe and respectful way to help give personal care.

### ***Bathing a person in Bed***

- Before you start, check for all the equipment you need. Make sure that it is clean and safe. Wash your hands and wear gloves and an apron. This helps to reduce the risk of infection.
- Ensure the client's privacy and dignity. Shut doors and if required, close the curtains so the person cannot be seen by others.
- Make sure the room is warm and you have prepared everything you need (clean clothes, bath towels, water at the correct temperature; always check it is not too hot or you may scald yourself or the person).
- Offer them the use of the toilet before you start.
- Remove the upper bedding and cover them with a large towel.
- Encourage and/or help them undress.

- Wash their face, ears etc. First, ask the person if they like to use soap on their face. Offer them the opportunity to do this for their self. Rinse the face using a wet clean cloth and dry with a clean towel.
- Next, wash their neck, arms, hands, chest, and tummy areas using the persons chosen soap. Wash the soap off using a clean wet cloth and dry them.
- Change the water to keep it warm.
- Wash their upper legs, lower legs, feet, then dry. Ensure that you have dried the person properly.
- Wash their back, then the buttocks and genitals area. If incontinence aids need to be used, now is the time to replace them with new ones. Ensure their under sheet is clean, dry and smooth and replace them if necessary.
- Clean finger and toe nails and, where necessary, apply moisturising cream. Help to clean their teeth or dentures, and brush their hair.
- If in bed, change the top sheet and pillow coverings, checking that the sheets and pillow covering are free of creases.
- Throughout the bed bath, pay attention to any signs of skin, nail, and hair damage. Record these in the person's visit record. Make sure the person is comfortable and tidy away all the things you have used. Remove your gloves and apron and wash your hands.

### ***Cleaning people's teeth***

- Wash your hands and put on gloves. Prepare any equipment you need.
- Have the person sit in a suitable chair, preferably by a sink, or sat up in bed.
- Wet the toothbrush and apply some toothpaste to the brush.
- Cover the person's clothes with a suitable waterproof covering or towel.
- Starting with their upper teeth, in a circular and up and down motion, gently brush downwards to brush their teeth, making sure you clean the back of the teeth too. Do the same with their lower teeth.
- Gently brush their tongue to make sure it is clean too.
- Use plain fresh water to rinse the mouth (if cleaning their teeth away from a sink, they will need a basin to spit out the solution). Repeat the process a few times to make sure the mouth is well rinsed.
- Dry around their mouth and chin.
- Dispose of any waste products such as linen etc.

### ***Denture Care***

- Put on gloves and an apron.
- Place a towel under the client's chin.
- Rinse their mouth with mouthwash or plain water, and ask them spit the solution into a basin.
- Remove dentures and put them in a suitable receptacle.
  - ✓ loosen the top denture with a gentle rocking motion, this breaks the seal
  - ✓ put it into an appropriate receptacle
  - ✓ repeat this with the lower denture
- Rinse their mouth with mouthwash and have them spit the solution into a basin.
- Take the dentures to a suitable sink, then moisten a toothbrush and apply some toothpaste and clean thoroughly with the toothbrush. Do the same with the other denture.

- Rinse them thoroughly with cold water.
- Put the dentures back into the receptacle and take them back to the person. Before replacing them, check if the mouth in good condition- no bleeding, sores etc. Record anything you notice in the visit record.
- If necessary, apply denture adhesive before replacing the dentures.
- Where the dentures are to be left out, put them in an appropriate container. Cover them with water or a denture cleaning solution.

### ***Brushing Hair***

- Make sure you use the person's own brush/comb to prevent cross-contamination and wear gloves.
- Check the brush/comb are clean.
- Start at the end of the hair, gently working upwards towards the scalp easing out any tangles.
- Be careful not to pull the person's hair. Take your time and as you do this, check the persons scalp for any signs of sores or infections and record anything you observe in the visit record.
- Brush and style the hair the way they like it done. Give the client a mirror to check whether they are satisfied. Clean the brush/comb before putting it away. Remove your gloves and wash your hands.

### ***Shaving Technique (Wet Shave)***

- Wash your hands and put on gloves. Do not share razors/blades between people; only use their own razor. Make sure the person is comfortable. If the person's condition allows, have them sit upright.
- Place a towel across their chest. Wet the face with warm water and then apply shaving foam or shaving soap. Start from the top of the face and work down towards the neck. Hold the razor in your right hand (left hand if you are left-handed) and shave in the direction of the hair growth.
- Shave using long positive strokes whilst being careful and gentle. Use your other hand to "stretch" the skin where you are shaving.
- After each stroke, thoroughly rinse the razor.
- When the neck and face are shaved, rinse with clean fresh cool water. Dry the face by patting with a clean towel. Do not rub the skin.
- Show the person their shaved face in a mirror and make sure they are happy with the shave. Clean the sink or bowl.
- Dispose of the razor/blade safely or put it back where the person likes it stored. Tidy the area and remove your gloves, then wash your hands.

### ***Finger Nail Care***

- Wash your hands and put on gloves. Collect all the equipment you need before you start.
- Put a bowl of warm water on the table, or if the person is able to sit at a sink, fill the skin with warm water. Ensure that the water is not too hot before you start. Soak the person's hands in the water for a few minutes to soften the nails and the area around

- the nails. Clean under the nails carefully. Check - Are their hands and skin healthy?  
Rinse one hand whilst leaving the other in the bowl. Make sure the water stays warm.
- Using an appropriate nail clipper, trim the client's nails. Take care not to cut the skin. Use an emery board/nail file to smooth any rough edges, shaping the nail appropriately. Dry the hand and massage hand cream into their hands from the fingertips up towards the wrist. Repeat with the other hand.
  - Clean and put away all equipment used and remove your gloves and wash your hands.

### ***Using a Bedpan***

- Wear gloves and apron.
- Ensure the person's privacy and dignity. Prepare any equipment you need before you start. Have the bedpan ready by the side of the bed, covered for discretion.
- Encourage and/or help the person as necessary.
- Technique to assist the person on to the bedpan:
  - ✓ they lie on their back
  - ✓ arms by their sides
  - ✓ raise their knees
  - ✓ they push up to arch their back making a bridge with the bedpan placed underneath them
  - ✓ wide rim under their buttocks
  - ✓ narrow area under the legs
  - ✓ if there is a handle, this goes between their legs
  - ✓ females, legs slightly apart
  - ✓ males, penis over the pan
- They can then settle down onto the pan. Drape the client with a sheet or towel to maintain their dignity. According to the client's needs and wishes:
  - ✓ stay with them until finished or ensure they can summon you when they have finished
- When they have finished remove the pan. Cover it immediately, clean and dry the person, and replace any incontinence aids they use.
- Wash their hands and make sure they are comfortable.
- Dispose of the contents discreetly and properly. Clean the bedpan and remove your gloves and apron, and wash your hands.

### ***Female Perineal Care Washing Female Genitals and Anal Area***

- Wear gloves and an apron. Wash your hands before you start.
- Ensure the environment is a suitable temperature and private.
- Prepare properly as you would any bathing process; cover the person so that only the area between her lower abdomen and upper legs are visible whilst the person lies on their back. Put a waterproof pad underneath the person to keep the bed/surface dry. Open their legs slightly and bend their knees
- Start by washing the pubic area down towards the vaginal area. With a clean cloth, separate the labia, washing one side at a time in a downwards direction. Make sure you rinse the cloth each time, especially when you change sides. With a clean cloth, wash down the middle over the vaginal area towards the anus. Using a dry towel or suitable cloth, dry the pubic and vaginal areas using the same sequence.
- Check - Does the area look healthy or are there any causes for concern? Using a clean cloth and fresh warm water, the client having turned onto their side, starting from

between their vagina and up towards their anus, wash their anal area then from their buttocks at the lower part of their back, wash down towards their anus to clean this part of their anal area. Check - Does the anal area look healthy or are there any causes for concern? Using a dry towel or suitable cloth, dry the anal area using the same sequence. Next remove the waterproof pad, abdomen and leg covering etc. Dress the person appropriately and make sure they are comfortable. Replace any incontinence aids they use.

- Dispose of waste contaminated laundry etc. Tidy the area and dispose of your gloves and apron. Wash your hands.

### ***Male Perineal Care Washing Male Genitals and Anal Area***

- Wear suitable protective equipment, especially gloves. Ensure the environment is a suitable temperature and private.
- Prepare properly as you would any bathing process
- Cover the person so that only the area between his lower abdomen and upper legs are visible whilst the client lies on their back. Put a waterproof pad underneath the person to keep the bed/surface dry.
- Wash the penis from its top, downwards towards its base making sure your cloth stays warm and well rinsed as you do this, If the penis is not circumcised, carefully pull back the foreskin and clean under it, making sure your cloth stays warm and well rinsed before you do this. Wash the scrotum, ensuring any skin folds are clean and that the underneath of the scrotum is clean further making sure your cloth stays warm and well rinsed. Using a dry towel or suitable cloth, dry the penis and scrotum using the same sequence.
- Check - Do the penis and scrotum look healthy or are there any causes for concern? Record these in your visit record.
- Using a clean cloth and fresh warm water, the client having turned onto their side, starting from between their scrotum and up towards their anus, wash their anal area. Next, wash from their buttocks at the lower part of their back, and wash down towards their anus to clean this part of their anal area. Using a dry towel or a suitable cloth, dry the anal area using the same sequence. Remove the waterproof pad, dress the person and replace any incontinence aids they may use and make sure they are comfortable.
- Dispose of waste, contaminated laundry and soiled items. Remove your gloves and apron. Wash your hands.

### ***Helping someone to eat***

- Wear a clean apron.
- Is the food presented attractively and at the right temperature? Make sure their food is in front of them and that they can reach it. Check that the person sitting comfortably, and in the right position. Place a napkin to protect their clothing. If they are unable to see the food, you will have to guide them.
- Sit in front of them, slightly to one side so you can make eye contact. Ensure you are sitting at the same level as the client. Check that the food is in portions small enough for the person to be able to chew. If not, you will have to cut it and/or encourage them to. If you are feeding them, offer small amounts at a time. Feeding someone is not a race - take your time! Use a small spoon or fork so you don't put too much in their

mouth at one time. Pay attention so they are encouraged to chew thoroughly. Help them to enjoy their meal. If they dribble, wipe the dribble away.

- When they have finished their meal, make sure their hands and face are clean and change their clothes if they have food or drink on them.
- Clear up immediately and check whether they are comfortable and have eaten enough.
- Remove your apron and wash your hands.

### ***Helping someone drink***

- Wear a clean apron and wash your hands.
- Is the drink the right temperature? Be careful not to burn them whilst at the same time not giving a hot drink that is unpleasantly cool. Make sure their drink is in front of them and that they can reach it. Check if the person is sitting comfortably and in an upright position.
- Place a napkin so as to protect their clothing, if necessary.
- If they are unable to see the drink, you will have to guide them. Sit in front of them, slightly to one side so you can make eye contact and they can hear you. Check if you are sitting at the same level as the person.
- It may be helpful to use an appropriate straw if the person is able to suck from it, or a beaker with a spout on. Offer them small amounts at a time. Pay attention so they are encouraged to drink, and help them to enjoy the drink by talking with them and not hurrying them. If they dribble, wipe it away. When they have finished, make sure their hands and face are clean. Change any clothing that has drink split on it.
- Clear up immediately. Check whether the person is comfortable and have drunk enough.
- When feeding someone, it is best to alternate food-drink-food-drink, but this will to a large degree be guided by what the person wants.

## **INFECTION CONTROL**

Infection control is a vital part of keeping the people you care for safe from infection and keeping yourself safe.

### **The Meaning and Importance of Infection Control**

#### ***What does Infection Control mean?***

Infection Control is a specialist area of healthcare. It has been developed to tackle the problem of infection.

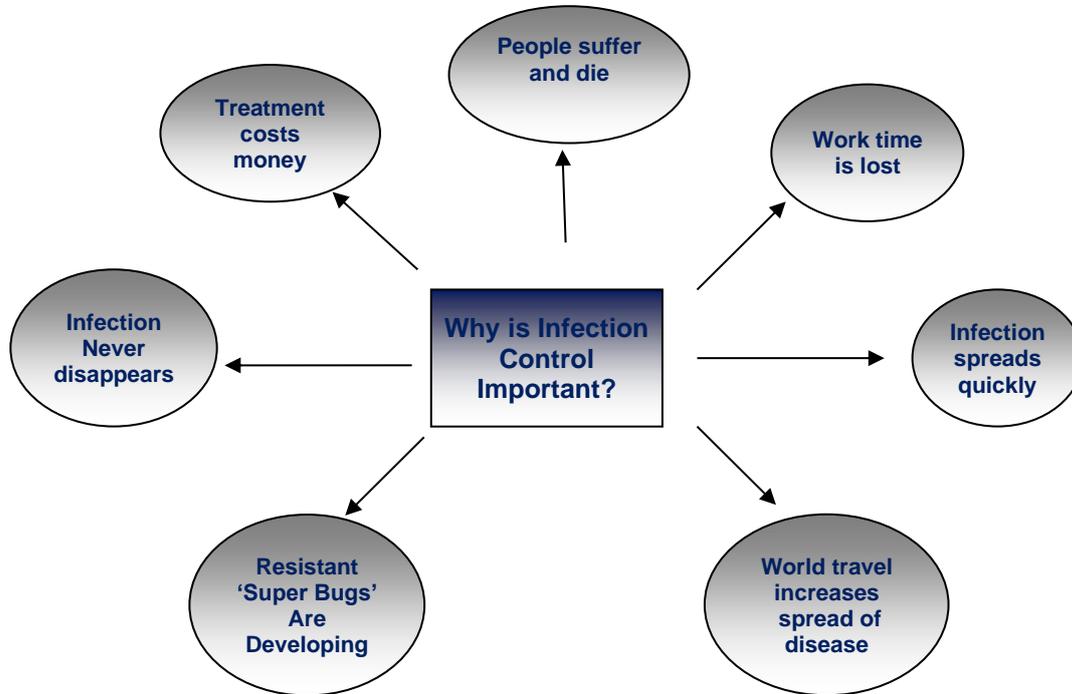
Although it is a specialist area, you do not need to be a specialist to practise it.

Everyone needs to know about Infection Control!

The more you learn about infection – what it is and how it occurs – the more you know how to avoid it, overcome it and minimise its spread.

## ***Why is Infection Control so important?***

Infection affects more than just your health. If you are ill, it can affect other areas of life. Therefore, the ability to control infection is important for many reasons. The diagram below illustrates some of these reasons:



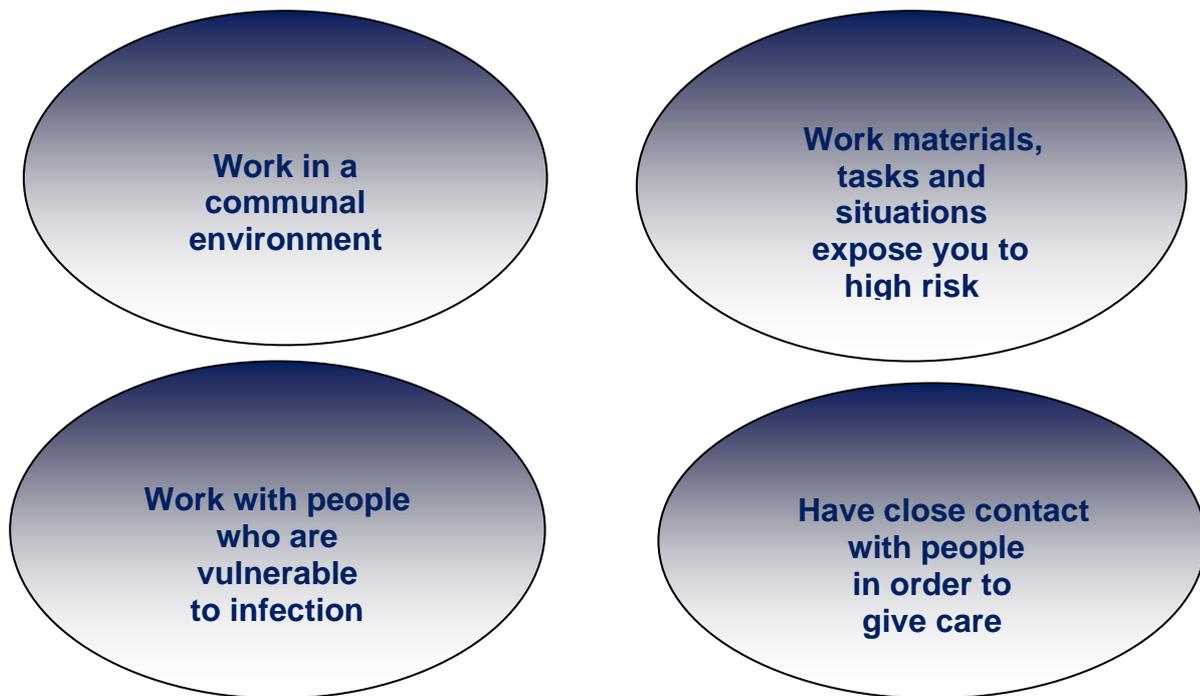
Infection can affect everyone, so we must all be concerned with it.

As adults, we have a responsibility to ensure that everyday activities, such as going to the toilet or preparing food, don't increase the likelihood of spreading germs.

### ***The relevance of Infection Control to certain workers***

Infection control is particularly relevant to your job. Almost certainly, your job means that you are in situations where there is a higher than usual risk of infection. This may be due to the tasks you carry out or the people you work with.

High risk behaviour always involves direct exposure to, and contact with, body fluids.



### ***Vulnerable people***

Certain groups of people are both more susceptible to infection and are at a greater risk of suffering severe consequences. These include the following groups:

- ✓ Babies, children and teenagers
- ✓ Pregnant women and unborn children
- ✓ Disabled and ill people
- ✓ Disadvantaged people

## **PERSONAL HEALTH AND HYGIENE**

### ***Your personal responsibility***

You hold an important personal responsibility in the fight against infection.

You can provide a barrier between the service users you come in contact with, and the millions of unseen, disease-causing microbes.

However, with one lapse of attention you can become the main route by which infection spreads.

Here are just three examples of behaviour that would make you a walking high-risk zone for spreading infection around your place of work:

- ✓ Failing to wash your hands thoroughly after going to the toilet
- ✓ Nipping out to the shops at lunch time wearing your uniform
- ✓ Struggling into work with a fever; feeling unwell

## ***Key aspects of Personal Hygiene***

- ✓ Soaps and Antiseptics – at work these should be provided in clean dispensers.
- ✓ Hand and Nail Care – this will be looked at in more detail next!
- ✓ Hair Care – hair is a potential infection hazard. Hair should be clean, tied up or cut short.
- ✓ Appropriate clothing, for example uniform – these can be laundered at very high temperatures to kill off the bacteria, so don't keep wearing the same uniform day after day!
- ✓ Protective Clothing – for example, disposable aprons and gloves.

## **INFECTION AND ITS CAUSES**

Infection is very difficult to define – even scientists argue over it.

The following points briefly explain aspects of infection:

- ✓ Infection causes disease that can affect any organ or system of the human body.
- ✓ If the disease can pass from person-to-person, this means it is infectious.
- ✓ It usually causes the sufferer to experience certain symptoms and to look and feel unwell.
- ✓ Infections can range from being very mild to very serious and some can cause death.
- ✓ Most infections are treatable.

### ***The Causes of Infection***

Infection is caused by microorganisms (microbes).

Microbes are tiny little cells. There are billions of them everywhere!

Microbes are so small that the human eye cannot see them.

There are two types of microorganisms:

- ✚ **Non – pathogenic** – these are helpful to humans. They are found naturally on the skin's surface and within the human body. They are known as **normal flora**.
- ✚ **Pathogenic** – these are disease-producing microbes. The term is sometimes shortened to 'germs.' The two main types are bacteria and viruses.

### ***Bacteria and Viruses***

Bacteria and viruses cause the illnesses and infections that you are most likely to see in your workplace and from which you may occasionally suffer.

#### ***What do bacteria need to survive?***

- ✓ Food
- ✓ Moisture
- ✓ Temperature

- ✓ Time
- ✓ Oxygen or no oxygen
- ✓ Acidity

### ***The signs and symptoms of Infection***

The following are generalised symptoms that an individual may have if they are suffering from an infection:

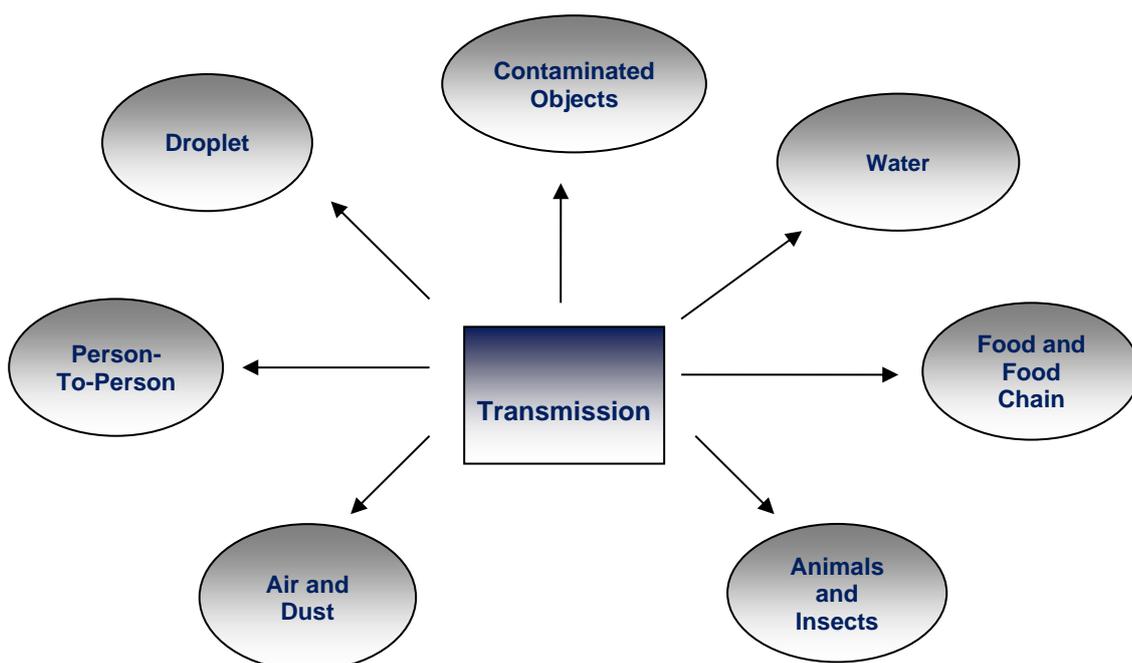
- ✓ Flushed, feverish and sweaty
- ✓ Raised body temperature (above 37 ° C)
- ✓ Localised swelling, redness or discharge of pus
- ✓ Enlarged glands of the neck, armpits or groin
- ✓ Pain
- ✓ Lack of appetite
- ✓ Vomiting or diarrhoea
- ✓ A change in behaviour

## **Infection and How it Spreads**

### ***How microbes move from place-to-place***

Microbes are not able to move around independently. They need transport and this is provided in many different ways.

The way microbes are transported from place-to-place, and especially from place-to-person, is called **transmission**.



## ***Main routes of Infection***

Microbes find their way into the body by a number of different routes. In order to cause infection, microbes must break through the skin's surface.

They can do this through:

- ✚ **A natural opening** – mouth, ears, nose etc.
- ✚ **An unnatural break** – scratch, graze, surgical wound etc.

## ***The spread of infection from person-to-person***

Infection can spread from person-to-person in many different ways. This process is called **cross-infection**.

There needs to be **contact** of some sort between people in order to spread infection.

Contact may be indirect or direct.

- ✚ **Indirect** – occurs if infecting microbes are transported via contaminated food, objects, insects or animals
- ✚ **Direct** – occurs when there is an actual physical contact with an infected person.

## **How to fight infection**

### ***How the body defends itself against infection***

The human body is not completely powerless against infection.

We have a range of ways of protecting and defending our body from harm.

Together, these defences are known as the **Immune System**.

The immune system is complex; it is separated into the external and internal systems.

### ***Treatments against Infection***

One of the main treatments for infection are antibiotics – these treat bacterial infections.

Other treatments include:

- ✚ Anti-viral products
- ✚ Anti – fungal products

## Making and Breaking the Chain of Infection

### *The Chain of Infection*

It is useful to see infection as a chain of events with a number of connected links.

Each link in the chain is vital, but is dependant for survival upon the next link.

'Doing' Infection Control is all about breaking the links of the chain of infection.

**Link 1** – Cause of infection

**Link 2** – Suitable environment

**Link 3** – Transport

**Link 4** – Route in

**Link 5** – Route out

**Link 6** – Next Victim!

### *Breaking the chain of Infection*

Breaking the chain of infection means interfering to block or remove one or more of the links in the chain.

We usually attempt to prevent the spread of infection by tackling as many links in the chain as possible.

One crucial method for preventing the spread of infection is to reduce the opportunities for Cross Infection.

Preventing Cross Infection involves three main methods:

- ✚ **Avoid** – high risk behaviours that are more likely to transfer infection from person-to-person
- ✚ **Reduce** – the numbers of microbes present in whatever reservoir they live, in the environment
- ✚ **Block off** – routes used to transfer from place-to-place and person-to-person.

## Practising infection control

### *Where should you practise Infection Control?*

Infection control is an important issue whoever you are, wherever you go and whatever you do!

This is because infection can be found almost anywhere.

However, there are four key areas where the potential for catching and spreading infection is higher.

The following are the four key areas where infection control is vital:

- ✓ Food Hygiene
- ✓ Personal Hygiene
- ✓ Living Conditions
- ✓ Management of Illness

### ***Universal precautions***

Universal precautions literally means everybody everywhere (universal) must act to avoid problems (take precautions).

In this case, the precautions are against infection.

It means you understand that it is impossible to be certain who might be a sufferer or a carrier of infection.

So everyone – including you – must be treated as if potentially infected.

The four key elements of Universal Precautions are:

- ✓ Protective Barrier
- ✓ Hand washing
- ✓ Cleaning
- ✓ Awareness

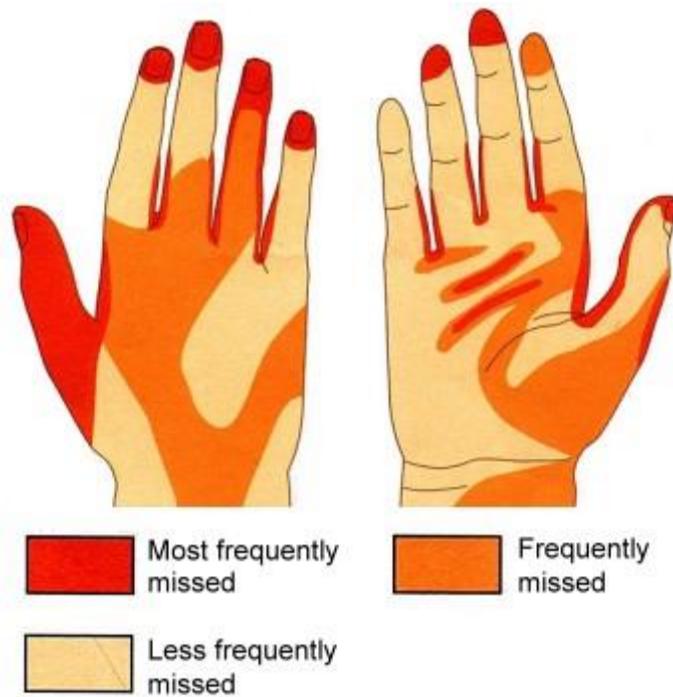
### ***Hand washing***

Hand washing is the most important element of Infection Control!

Hand washing, when carried out thoroughly and correctly, is still the most effective way of limiting the spread of all types of infection.

Although hand washing is a straight forward procedure, lots of people fail to do it thoroughly enough to be effective.

✚ **Areas missed during hand washing**



Reference: Taylor L. (1978)

✚ **The correct hand washing and drying technique**

- Remove jewellery and watches
- Roll up sleeves
- Use warm running water
- Use an adequate amount of soap, from a soap dispenser

**(See illustrated)**

1. Rub hands, palm-to-palm



2. Rub palms over backs of hands, interlacing the fingers



3. Rub palm-to-palm with fingers interlaced



4. Clasp fingers to rub backs of fingers



5. Rotational rubbing of thumbs



6. Fingertips together, rubbing into palms



7. Rinse under warm running water

8. Dry carefully on a disposable paper towel

9. Avoid touching the bin when throwing away the paper towel

***When should you wash your hands?***

- ✓ Before starting work
- ✓ After leaving the work area

- ✓ Before contact with a person
- ✓ After contact with a person
- ✓ After making a bed
- ✓ After using the toilet
- ✓ After contact with body fluids
- ✓ After removing disposable gloves
- ✓ Before and after preparing, serving and eating food
- ✓ After handling laundry and any clinical waste

## KEEPING A CLEAN WORKING ENVIRONMENT

### The Importance of Maintaining a Clean Work Environment

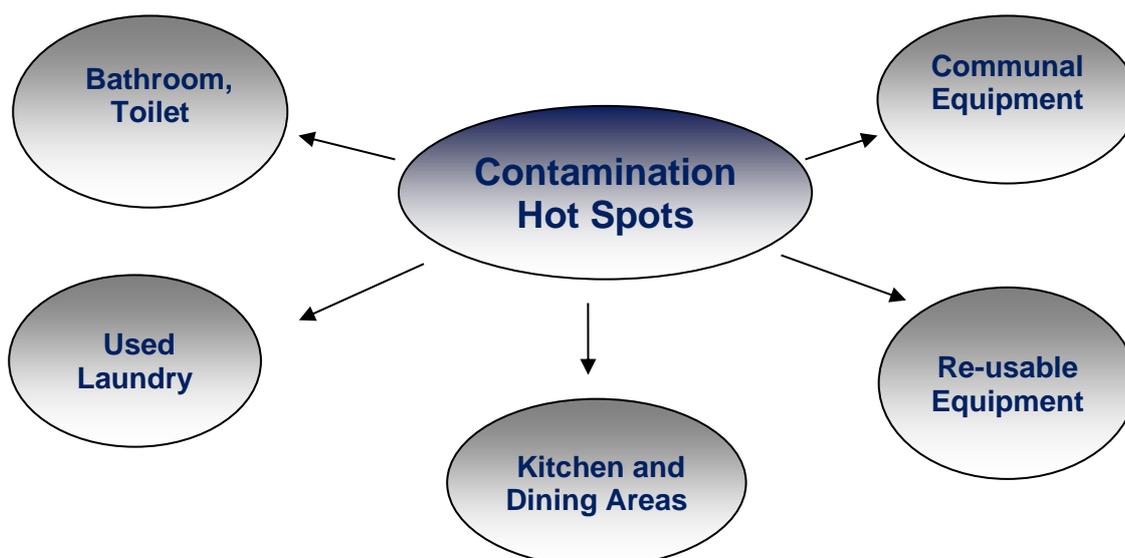
Microbes thrive in places that are damp and dirty. By keeping a clean working environment, you reduce the opportunity for microorganisms to thrive.

Cleaning removes germs and reduces the opportunity for Cross Infection.

#### ***De-contamination Techniques***

- ✚ **Cleaning** – is for lower risk items, such as floors, furniture etc.
- ✚ **Disinfection** – is for medium risk items, such as bed pans, commodes etc.
- ✚ **Sterilisation** – is for high risk items that are introduced inside the body, such as surgical instruments

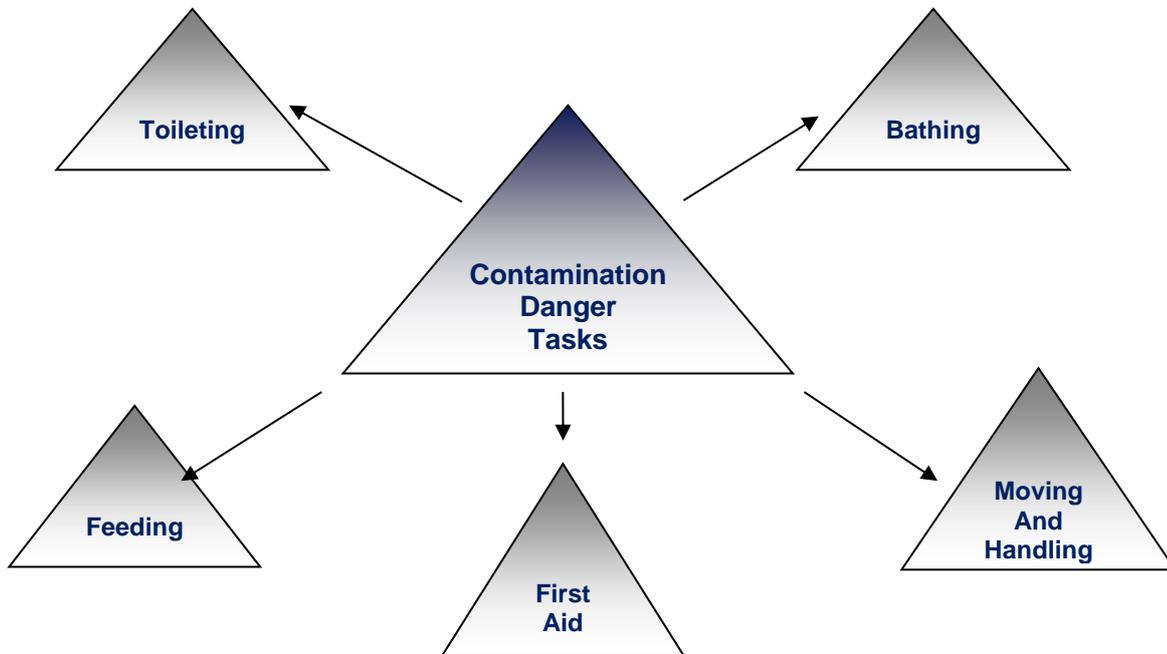
#### ***High risk areas for contamination at work***



## ***Contamination Danger Tasks***

The type of care you will most likely to be providing for service users holds a greater risk of cross infection because it commonly involves body fluids and close physical contact.

The following diagram outlines these.



## ***Dealing with Body Fluids***

Remember that to be safe, you must treat everyone and their body fluids as if they are infectious.

You must take the correct measures when dealing with:

- ✓ Spillages of Body Fluids
- ✓ Splashes of Body Fluids
- ✓ Taking specimens of Body Fluids
- ✓ Needle-stick/Sharps Injuries

## **Summary**

Remember, in your role you can make a big difference in preventing unnecessary harm to many people.

You just need to take the time to remember the basic principles that you have learnt. Carrying out simple procedures like hand washing and wearing protective clothing correctly could actually save somebody's life.

## SKIN AND PRESSURE AREA CARE

### **Skin**

- ✓ Regulates body temperature
- ✓ Releases waste products
- ✓ Absorbs sunlight and helps to convert it into Vitamin D
- ✓ Detects sensations such as pain, external pressures and external temperature changes.

The outer layer is called the **epidermis**, and is continually worn away and replaced.

The second layer or **dermis** contains **subcutaneous tissue**, where the hair follicles, arrector Pili muscles, sebaceous and sweat glands are positioned.

Within the dermis and subcutaneous tissue is **collagen** and **elastin**.

Collagen is made of connective tissue that provides a framework of structure and support.

Elastin adds suppleness and strength acting like an elastic band.

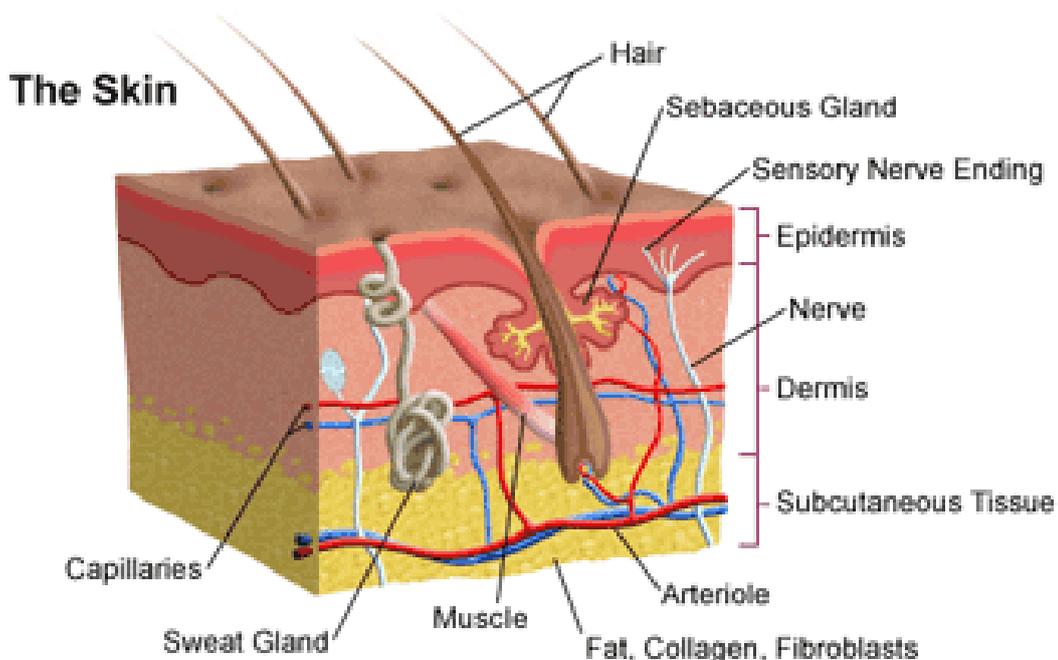
The subcutaneous fatty layer also provides insulation against extremes of temperature and is an extra source of nutrition.

Several types of nerves protect the body by warning it of actual or impending danger.

- ✚ **Collagen** = connective tissue for structure and support
- ✚ **Elastin** = suppleness and strength
- ✚ **Subcutaneous Fat** = insulation and nutrition

The skin needs a good supply of **nutrients, water and oxygen** provided by the blood vessels. Waste products from the body's tissues are removed by the lymphatic system.

### **Diagram of the skin structure**



## PRESSURE ULCERS

### *Who has a higher risk of developing pressure ulcers?*

Those with:

- ✓ Confusion or dementia which lessen mental awareness and may prevent people feeling discomfort
- ✓ Diseases and disorders that slow healing
- ✓ Acute illness e.g. pneumonia or urine infection
- ✓ Incontinence
- ✓ Malnutrition and dehydration
- ✓ A higher age
- ✓ Unrelieved pressure
- ✓ Indirect pressure shearing; friction
- ✓ Moist skin (especially from raised temperature)
- ✓ Decreased consciousness e.g. after an operation, taking sedative drugs
- ✓ Diminished sensation e.g. diabetes, strokes

### *What is a pressure ulcer?*

This is when prolonged pressure or pressure combined with other factors is exerted over bony prominences. They usually occur on the sacrum, buttocks, hips and heels. Shear (stretching) or friction (rubbing) can also cause ulcers. They usually develop as a result of two major factors:

- ✓ Occlusion and damage of the blood vessels owing to direct pressure, shear and friction
- ✓ The fragile nature of the microcirculation

### *What's happening under the surface?*

Damage to the microcirculation causes a build-up of toxic materials. The lymphatic system will be affected if injury occurs, resulting in further cell and tissue destruction. This may result in infection.

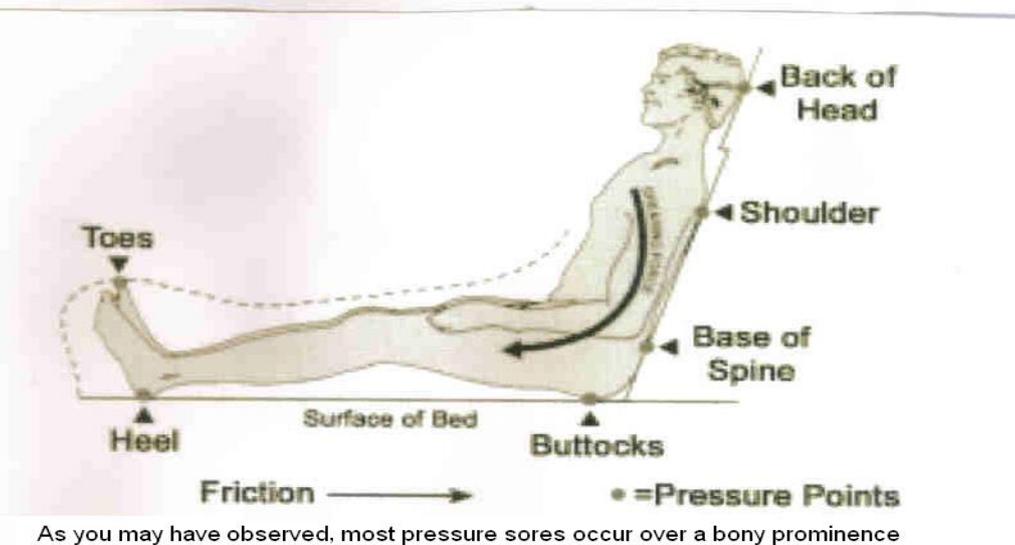
#### **Diabetic ulcers**

Holistic care of the patient with a diabetic ulcer is paramount. The diabetes team, vascular surgeons and chiropodist should all be involved. Frequent debridement together with expert assessment of footwear needs is also important. These wounds can deteriorate rapidly with serious complications.

#### **Neuropathic** ulcers result from the effects of pressure on the patient's feet of which they are unaware because of loss of sensation (neuropathy) caused by their diabetes.

#### **Ischemic** ulcers occur owing to damage to the arterial circulation resulting from the diabetic disease process.

## ***The most common sites for pressure areas to develop***



## **HOW TO RECOGNISE THE DEVELOPMENT OF A PRESSURE ULCER**

The 4 stages of pressure ulcer development:

- Stage 1** Non blanching erythema
- Stage 2** Broken Epidermis
- Stage 3** Full thickness skin loss
- Stage 4** All layers including fatty tissue, muscle, bone and undermining of other structures  
Eschar = Necrosis of tissue

### **STAGE ONE**

Damage is limited to the epidermis.

The skin appears red and does not turn white when pressed lightly with a finger = non blanching erythema.

Discoloration, warmth, oedema and hardness may also be present.

### **STAGE TWO**

Damage extends beyond the top two layers of the epidermis and dermis to the adipose tissue.

The skin is slightly broken.

The sore appears to be an abrasion, blister or small crater.

### **STAGE THREE**

Damage extends through all the superficial layers of the skin, adipose tissue, down to and but not through underlying fascia.

The ulcer appears as a deep crater and damage to adjacent tissue or some necrosis may be present.

### **STAGE FOUR**

Damage includes destruction of all soft tissue structures and involves muscle, bone or joint structures.

Undermining of adjacent tissue and sinus tracts may be associated with these ulcers.

Necrosis may be present-the skin becomes brown or black in appearance with a leathery feel to it. Underlying damage is extensive beyond the wound edges.

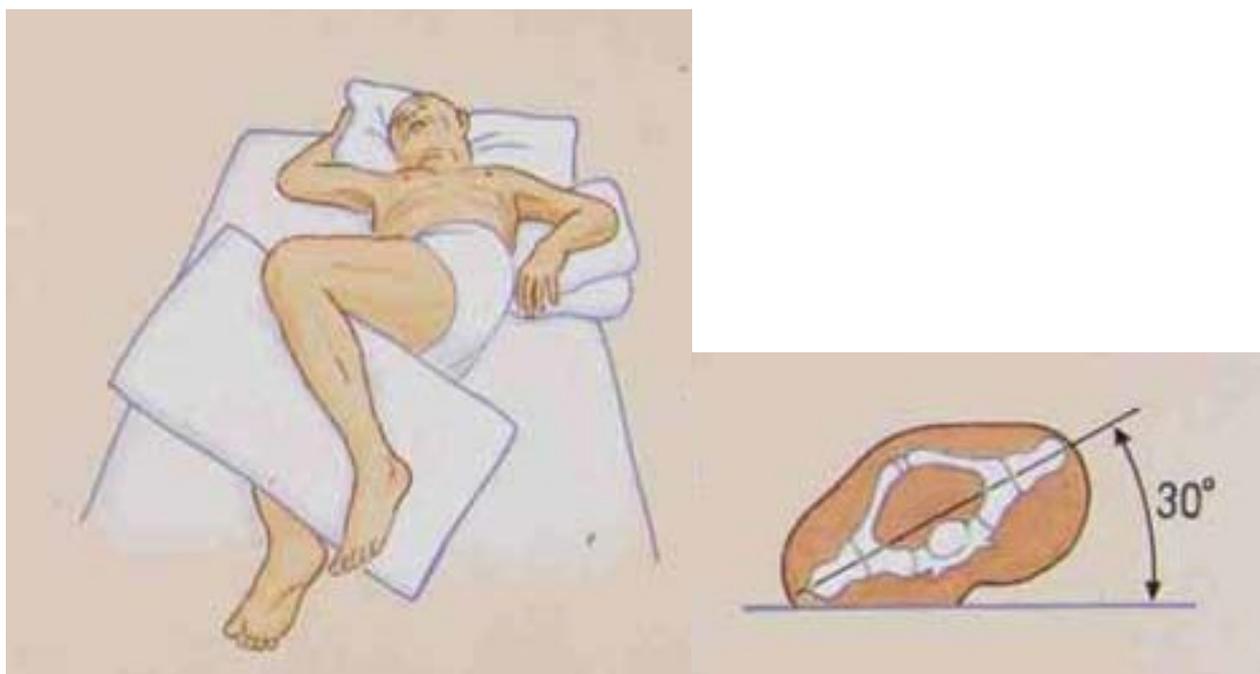
### ***How to prevent pressure ulcers***

- Identify if a person is in an 'at risk' group.
- Inspect the skin for early signs of pressure damage.
- Regular pressure area care. This means changing the person position regularly. Encourage them to move position.
- Use correct handling techniques.
- Ensure bed clothes are wrinkle-free and no crumbs are in the bed.
- Eat a well-balanced diet and drink plenty of fluids.
- Use pressure-relieving equipment whenever possible
- Protect vulnerable areas with special garments.
- Do not rub or massage the skin.
- Do not use excessive amounts of soap or talcum powder. Make sure the skin stays clean and dry. If the person is incontinent, change them regularly.
- Do not use creams or ointments without consulting a doctor or nurse.
- Particular attention should be paid to skin integrity in patients with altered/reduced mobility. This means noticing red marks, sore or darker areas on the skin. If you see any of these, the person may have the early stages of a pressure sore developing. Ensure you do not lay them on that part.

## **CARING FOR PEOPLE WHO ARE BED BOUND**

When a person is unable to get up or move, you will need to do this for them to help prevent pressure areas. Most people will need moving every 2 hours to prevent them from developing pressure sores, but this will vary according to the person's condition and the condition of their skin.

The 30° tilt redistributes pressure but is not a substitute for turning patients regularly. The damaging forces need to be reduced or eliminated to prevent or heal a sore.



Low air-loss beds and static air mattresses have been found to be effective in reducing and prevent pressure sores. If you have them available then they can help.

There are many different makes and models of support surfaces available, and you need a good working knowledge of a selection of these.

If a pressure sore occurs however, a dynamic system will provide the best chance of healing.

“Dynamic” mattresses, overlays or beds, work by using either:

- ✓ Cells that alternatively inflate and deflate (alternating pressure)
- ✓ Cells that have a continuous low air flow running through them (low air loss); small ceramic beads that are kept in a “fluidised” state by air flow through the bed. A practical cost-effective approach is needed to begin with.

Some of these support surfaces will help to reduce friction. However, it will be eliminated further by ensuring that patients are lifted, not dragged, when they are moved. The best way to reduce shear is to nurse the patient flat, but this may not always be appropriate.

A range of devices have been found to be effective in reducing the incidence of pressure ulcers.

- ✓ Pressure-reducing foam
- ✓ Static air
- ✓ Alternating-pressure air mattresses

Sheepskins should no longer be used.

Patients at risk should restrict chair sitting to less than two hours at a time until their general condition improves. For patients with dry skin, the best practice statement recommends twice-daily rehydration using non-perfumed moisturisers. Patients with continence problems should have their skin cleansed with a cleanser rather than soap and water. Open wounds need to be covered. Skin cleansers maintain and restore the skin’s natural pH.

When you are caring for people in their own homes, it may be difficult to get equipment. You will need to adopt a practical approach when this happens. You can help relieve pressure by ensuring the person is moved regularly and they do not sit or lay on a hard or uneven surface.

Remember:

Pressure ulcers are often preventable. They cause serious problems including:

- ✓ Pain
- ✓ Complications such as infection
- ✓ Death if the person develops septicaemia

## **NUTRITION**

We eat and drink to keep alive but it is increasingly apparent that what we eat and drink can have an influence on both our immediate health and our future health.

No single food contains all of the essential nutrients the body needs to be healthy and function efficiently. The nutritional value of a person’s diet depends on the overall mixture or balance of the foods that are eaten over a period of time as well as the needs of the individual eating them. This is why a balanced diet is likely to include a large number or variety of foods, so adequate intakes of all the nutrients are achieved. When you are caring for people, ensuring the person has plenty to drink and a balanced diet is vital to keeping them well and preventing things like pressure area problems and malnutrition. It is not only the amount we eat that is important, but the balance of what we eat. For people who become

unwell or frail though age, it is important to ensure they are fed and have plenty of fluids. If people find it hard to chew or swallow, you will need to make sure the food is prepared in a way that helps them to eat it e.g. cutting it up into small pieces or mashing it down so it is soft enough for them to swallow.

## **Nutrients**

We all need energy from foods to live. The main nutrients found in foods that provide energy are:

- ✓ Protein
- ✓ Fats
- ✓ Carbohydrates

Although not classified as a nutrient, alcohol also provides energy.

Some nutrients are essential for life though they are needed only in small amounts:

- ✓ Vitamins
- ✓ Minerals

Vitamins and minerals do not provide energy.

Fibre does not provide us with energy, but it is needed to keep our digestion working properly. It helps us to get rid of waste products from the body and keeps our bowels working properly.

Fluid is vital – without fluid we will not live for very long. Adequate fluid is needed to keep us healthy. Water is the main fluid but it does not provide us with energy.

We all need energy from foods to live

Protein, fat, carbohydrates and alcohol all provide energy.

Vitamins and minerals are essential for life, but do not provide energy and are only required in small amounts.

## **Energy**

We need energy for our bodies to function and be active. In the body, energy is used to maintain those activities that keep us alive. These include maintaining the body temperature, processes such as breathing, the beating of the heart, the blood circulating, and the synthesis of the different body tissues – such as the growth of hair.

The energy used in these processes is called the **Basal Metabolic Rate (BMR)**.

All physical activities – whether vigorous, such as running, or small, such as blinking – that use muscles require energy.

Foods contain a mixture of nutrients – for example, whole milk contains a mixture of protein, fat (in the cream on top of the milk) as well as some carbohydrate all provide energy. Milk contains other nutrients, such as calcium and vitamins which do not provide energy. Milk also contains water.

Different foods provide different amounts of energy depending on the amounts of the various energy-providing nutrients they contain. Energy from food is measured in kilojoules (KJ) or kilocalories (kcal).

## **Energy requirements**

The amount of energy a person needs depends on a number of factors. These include body size and composition i.e. how tall and heavy a person is and how much lean tissue (muscle) they carry, compared with how much fat they carry. Muscle tissue uses more energy than fat tissue. In general, females require less energy than males. Guidelines Daily Amounts' (GDA'S) for energy are 2000 kcal for adult women and 2,500 for adult males.

During the later stages of pregnancy however, a woman requires approximately 200 extra kcal (840KJ) per day. When she is breastfeeding a baby of two months of age however, she requires approximately 500 kcal (2,100KJ) extra per day.

Energy requirements also depend on age and on how active a person is. Infants and children need energy for growth. Teenagers or adolescents 15-18 years of age often have the highest requirements for energy of any age group as they are growing and are usually very active.

In general, adults require less energy as they get older – elderly people typically have less muscle and are less active than younger adults. Elderly people often neglect their energy requirements and should be encouraged to eat healthily.

Different foods provide different amounts of energy depending on the amounts of the various energy providing nutrients they contain.

The amount of energy a person needs depends on a number of factors: body size and composition, whether they are male or female, how physically active they are and their age.

## **Protein**

The human body is made up of cells. These cells vary in their makeup and are grouped together to make up all of the vital organs of the body such as the liver, heart or skin as well as red and white cells. As the cells of the body die, they are replaced as part of a continuing cycle of renewal e.g. red blood cells are replaced approximately every 120 days.

Proteins are essential constituents of all cells where they regulate body processes or provide structure. Protein must be provided in the diet for the growth of new cells, children or the foetus of a pregnant woman. Proteins are also needed for the repair of body cells. Any excess protein that is not needed for growth or repair is used to provide energy.

Protein foods are those foods that contain a large proportion of protein. They can be divided into animal sources and plant sources.

Animal sources of protein include:

- ✓ Meat
- ✓ Poultry
- ✓ Offal
- ✓ Fish

- ✓ Eggs
- ✓ Milk and dairy like cheese and yoghurt

Plant sources of protein include:

- ✓ Soya and soya foods
- ✓ Pulses such as beans, lentils, peas
- ✓ Nuts

A small amount of protein is also provided by bread, breakfast cereals and pasta as well as potatoes. Proteins consist of chains of amino acids- basic, tiny building blocks from which proteins are made.

### **Amino acids**

Amino acids can be divided into two types:

- ✚ Indispensable (essential)
- ✚ Dispensable (non-essential)

Indispensable amino acids cannot be made by the body in amounts sufficient for health and must therefore be present in the diet. Dispensable amino acids are equally necessary as components of protein in the body, but they can be made within the body.

Eating the right mix of food at each meal will provide a balance of indispensable and dispensable amino acids. Mixtures of plant protein foods such as beans on toast complement each other as most plant protein foods provide insufficient amounts of at least one indispensable amino acid.

The amount of protein we need changes during a lifetime. Infants, children and adolescents need protein for growth. Adults need protein for tissue repair maintenance. Pregnant women need extra to produce milk.

Proteins are essential constituents of all cells – we need different amounts of protein during life for growth, tissue maintenance and repair.

Proteins can be provided by animal sources and plant sources.

Proteins consist of chains of amino acids.

Eating the right mix of food is important to provide the right balance of dispensable and indispensable amino acids.

### **Fat**

Fats provide the body with energy in a concentrated form, 9kcal (37KJ) per g. They are also needed to help absorb some of the fat-soluble vitamins.

Sources of fat include 'visible fats' (those that can easily be seen) such as butter, margarine and other cooking fats and oils, including the fat on meat. There are also the 'invisible fats' (those that cannot easily be seen) i.e. fat in foods such as cheese, biscuits, cakes, pies, pastries and nuts.

The components of fat are known as fatty acids of which there are three main classes:

- ✚ Saturated fatty acids (saturates) – have the most stable structure and are mainly solid at room temperature.
- ✚ Monounsaturated fatty acids (monounsaturates) – are less stable and are liquid at room temperature.
- ✚ Polyunsaturated fatty acids (polyunsaturates) – are also liquid at room temperature and are the most prone to reacting with oxygen in the air and becoming rancid.

All food fats are a mixture of the three types listed above, although the proportions may vary. For example, saturated fats are mainly found in foods such as lard, hard margarine and butter. However, coconut oil and palm oil also contain predominantly saturated fatty acids. Olive oil and rapeseed oil contain mainly monounsaturates. Sunflower oil, corn oil and soya oil contain mainly polyunsaturated fatty acids.

Oil rich fish such as mackerel, sardines, herring and trout are rich in sources of a particular family of polyunsaturates known as n-3 fatty acids (also called omega 3 fatty acids or fish oils). These fatty acids are important as they have an anti-inflammatory effect which is helpful for keeping joints pain-free from arthritis and preventing coronary heart disease.

Fat is important for health, but only in small amounts. No more than 35% of the energy in our diets should come from fat.

CDAs for fats are 70g for women and 95g for men. GDAs for saturated fats are 20g for women and 30g for men.

Diets that are high in fat, particularly the saturates, are linked with an increased risk of heart disease through their effect on blood cholesterol levels. High fat diets (due to their high energy content), may also cause weight gain if physical activity levels, and hence energy expenditure, is lower than the energy intake.

Fats provide the body with energy in a concentrated form.

Fat is important for health, but only in small amounts.

Most people have too much fat in their diets, and diets rich in saturated fatty acids are linked with an increased risk of heart disease.

## **Carbohydrates**

There are three major groups of carbohydrates in food:

- ✓ Starches
- ✓ Sugar
- ✓ Fibre

Starches and sugar are a major source of food energy for people throughout the world. At least half the energy in the diet should come from carbohydrates, the majority of which should come from starch. Fibre does not provide energy, but it is important for bowel health.

## **Starches**

Starch forms the major energy reserve of most plants where it is stored in the tubers (for example in potatoes), roots (such as parsnips) and seeds (such as the grains of cereals like oats, rice and wheat) of plants. The principle sources of starch in the diet are wheat (such as found in bread, pasta and cous-cous), rice, cereals (such as maize and oats) and potatoes.

## **Sugars**

Glucose syrups are used in cakes, biscuits, sports drinks and confectionery. These types of sugar are termed **non-milk extrinsic sugars (NMES)** because they are an added ingredient rather than an integral part of foodstuff. Other sources of sugar in the diet are milk (lactose), fruit (fructose) where the sugar component is part of the food.

## **Fibre**

Fibre used to be called 'roughage' and is found in most cereal foods such as bread and breakfast cereals. It is particularly in wholegrain varieties like wholemeal bread, wholegrain breakfast cereals, brown rice and brown pasta. It is also found in pulses (beans and lentils), fruit and vegetables. Fibre makes up the components from plant foods that generally cannot be absorbed into the body. Some fibre constituents (mainly those from the cereals like wheat, add bulk to the faeces which is important for bowel health and in preventing constipation. Other fibre constituents found in fruit, vegetables, pulses and oats can help reduce the amount of cholesterol in the body by reducing absorption. However, eating very large amounts of fibre can decrease the absorption of some minerals.

It has been recommended that we should aim to eat at least 18g per day to prevent problems like constipation, piles (haemorrhoids) and bowel cancer. Most of the fibre eaten comes from potatoes, cereal products and vegetables.

Starches and sugars provide energy. Fibre does not, but is important for bowel health.

At least half the energy in the diet should come from carbohydrate, the majority of which should come from starch.

Eating a lot of certain types of sugar containing foods and drinks, especially between meals is associated with increased risk of tooth decay.

## **Vitamins**

Vitamins are complex substances needed in very tiny amounts for many different body processes. Vitamins have numerous functions in the body but, as they cannot be made in the body, they must be provided by diet.

There are two main groups of vitamins:

- ✚ Fat-soluble vitamins which are found in fatty foods e.g. vitamin A and D, and can be stored in the body.
- ✚ Water-soluble vitamins which are found in food that contain amounts of water such as fruit and vegetables, and cannot be stored in the body, so a regular supply is required in the diet.

## Minerals

Minerals are essential for health and must be derived from food. Minerals are needed in relatively small amounts and for a variety of body functions.

The following table gives the main functions and sources of each vitamin and mineral:

### Fat Soluble Vitamins

Vitamin	Main Functions	Sources
<b>A</b>	Maintains and repairs tissues needed for growth and development Essential for immune function	Milk, cheese, eggs, liver, oily fish, vegetables and fruit, especially carrots, tomatoes, mangoes, apricots and green leafy vegetables
<b>D</b>	Promote calcium absorption from food Essential for bones and teeth	Sunshine, fortified margarines and breakfast cereals, meat, oily fish, eggs
<b>E</b>	Acts as an antioxidant Protects cell membranes from damage by oxygen	Vegetable oils, margarines, wholegrain cereals, nuts, green leafy vegetables
<b>K</b>	Essential for blood clotting	Dark green leafy vegetables, fruit, vegetable oils, cereals, meat

### Water Soluble Vitamins

Vitamin	Main Functions	Sources
<b>C</b>	Needed for the production of collagen which is used in the structure of connective tissue of muscles and blood vessel walls and also for bones Helps wound healing and iron absorption	Fruits, especially citrus fruits, fruit juices, green vegetables, salad potatoes, peppers, kiwi fruit
<b>B1</b>	Involved in the release of energy from carbohydrate Important for brain and nerves	Cereals, nuts, pulses, green vegetables, pork, fruits, fortified breakfast cereals
<b>B2</b>	Involved in the energy release, especially from fat and protein	Liver, milk, cheese, yogurt, eggs, green vegetables, yeast extract, fortified breakfast cereals
<b>Niacin</b>	Involved in the release of energy	Liver, beef, pork, lamb, fish, fortified, breakfast cereals and other cereal products
<b>B12</b>	Necessary for the proper formation of blood cells and nerve fibres	Offal, meat, eggs, fish, milk, fortified breakfast cereals. No plant foods contain a source of B12 that the body can absorb naturally
<b>Folate (Folic Acid)</b>	Involved in the formation of blood cells Reduces risk of neural tube defects in early pregnancy such as spina bifida	Liver, orange juice, dark green vegetables, nuts, wholegrain bread, fortified breakfast cereals
<b>B6</b>	Involved in the metabolism of protein	Widely distributed in foods; potatoes, fish, chicken, cereals

<b>Minerals</b>	<b>Main functions</b>	<b>Sources</b>
<b>Calcium</b>	Has a structured role in bones and teeth Also essential for cellular structure It assists muscle contractions to occur	Milk and milk products, bread, pulses, green vegetables, dried fruits, nuts, seeds, soft bones found in canned fish such as sardines
<b>Magnesium</b>	Involved in skeletal development, nerve and muscle function It is also necessary for the functioning of some enzymes involved in energy use	Cereals, particularly wholegrain and wholemeal products, nuts, seeds, green vegetables, milk, meat, potatoes
<b>Phosphorus</b>	Has a structural role in bones and teeth Also a constituent of all major classes of a number of substances in the body	Milk, milk products, bread, meat/poultry
<b>Sodium</b>	Involved in maintaining the water balance of the body and also essential for muscle and nerve activity However, a high sodium intake has been linked to increased blood pressure. Most people eat too much sodium	Processed foods; bread, cereal products, breakfast cereals, meat products, pickles, canned vegetables, canned and packet sauces and soups, packet snack foods, spreading fats, cheese and salt added to food
<b>Potassium</b>	Complements and counterbalances the action of sodium	Vegetables, potatoes, fruit, especially bananas, juices, bread, fish, nuts, seeds
<b>Iron</b>	Important for the formation of red blood cells	Meat and meat products are a rich source of well absorbed iron Plant sources of iron are cereals, bread, breakfast cereals, green leafy vegetables, beans, lentils and dried fruit To help absorption from plant sources, a source of vitamin C should be consumed at the same meal as the iron-containing food
<b>Copper</b>	A component of a number of enzymes	Shellfish, liver, meat, bread, cereal products, vegetables, tap water
<b>Selenium</b>	Acts as an antitoxin by being an integral part of one of the enzymes that protects against oxidative damage	Nuts, especially Brazil nuts, cereals, meat, particularly offal, fish, particularly shellfish
<b>Iodine</b>	A key part of the thyroid hormones that help control metabolic rate, cellular metabolism and integrity of connective tissue	Fish, seaweed, milk, milk products, beer, meat products
<b>fluoride</b>	Protects against tooth decay and has a role in bone development	Fish, tea

## ***Antioxidants***

The substances vitamin C, beta carotene (the substance that the body can convert into vitamin A) vitamin E and the mineral selenium all act as antioxidants. These mop up harmful chemicals in the body and prevent them from damaging cells and causing cancers and coronary heart disease.

Additional antioxidants are found in fruits and vegetables which is why eating fruit and vegetables each day is so important.

## ***The Immune System***

The system in the body that helps the resistance to infections and the early stages of diseases is called the **immune system**. As described, certain vitamins such as Zinc and vitamin C help the immune system.

Vitamins and minerals cannot be made in the body so must be provided by food.

Antitoxins mop up harmful chemicals in the body and prevent them from damaging cells.

Some vitamins help the immune system to work efficiently.

## ***Eating a mixed diet***

All foods provide energy and nutrients and it is achieving the correct intake of nutrients that is important to health.

Hardly any foods provide only one nutrient. Most are very complex mixtures, consisting mainly of carbohydrates, fats and proteins together with water and a selection of vitamins and minerals. For example, 100g of raw potato provides about 17g of carbohydrates, 2g of protein, 80g of water and less than 0.5g of vitamins and minerals. If the potatoes are fixed as chips, they will also provide some fat.

Different foods provide different vitamins and minerals, therefore a healthy diet should include a variety of foods. For example, dairy products such as milk and yoghurt are good sources of calcium, but they contain very little vitamin C. Citrus fruits are good sources of vitamin C, but they do not provide any iron and so on. The important lesson is to eat a balanced and varied diet.

## ***Water***

Water comprises about two thirds of the body's weight and is necessary for all bodily processes to take place. The need for water by the body is second only to its need for air to breathe. Adults can survive for many weeks without food, but only a few days without water, or even with such items as fruit and vegetables containing significant amounts of fluid as well as drinks. Fluid is lost through breathing (being lost in exhaled air) and sweating as well as urine. The kidneys regulate the balance of water retained in the body. Most people need 1-2 litres (three pints or six to eight cups) of fluid per day from food and drinks.

## ***The nutrient content of foods***

Almost all foods are processed in some way before they can be eaten, and each process will have an impact on the nutrient content. This part of the book looks at the effect of processing

on the nutrient content of the food and ways of minimising nutrient loss. Nutrients lost during processing may be replaced.

### ***Preventing the loss of nutrients***

Many factors influence the nutrient content of foods, including storage, processing, cooking and preservation. Most have to be prepared and cooked before they can be eaten. For some foods, the process may be simple as in the peeling of an orange. For others, it may be complicated e.g. wheat grains must be separated from the inedible parts of the plant (the outer bran) and milled into flour which in turn has to be treated before being baked into bread. At each stage, some of the nutrients can be lost. The nutrient levels of food may be further reduced if the food is stored for long periods, particularly if conditions are not ideal. These losses, although not critical if a good mixed diet is eaten, should be kept to a minimum.

### ***Cooking***

The heat of cooking causes chemical and physical change in food that makes the raw product palatable and digestible and may aid its preservation. Cooking however, often results in the loss of nutrients. This is greatest at high temperatures and long cooking times, or if an excessive amount of liquid is used.

The water-soluble vitamins are particularly vulnerable during the process of cooking. The losses of vitamins and minerals are reduced if the cooking water is not discarded but used in soups and gravies.

The effects of microwaves and infra-red cooking on nutrients are similar to the cooking methods they replace.

### ***Preservation***

Freezing is a popular method of food preservation that can result in the loss of vitamin B1 (thiamine) and vitamin C when vegetables are blanched by quickly immersing in hot water before freezing. This loss is, however, less than would otherwise result from the continuing action of enzymes in the plant tissues during storage. These enzymes can break down plant tissues and cause deterioration of the food. Freezing inhibits the actions of these enzymes. If frozen foods are kept below 18°C for a year, there is little further loss of nutritional value until the food is thawed generally; there is little difference between the nutrient content of cooked fresh foods and cooked frozen foods.

Heat processing in metal cans or bottling in glass jars is undertaken to preserve foods by destroying microorganisms (bacteria) which cause food to rot or perish. The process will also reduce the amounts of heat-sensitive vitamins, especially B1 (thiamine), folate and vitamin C. The losses will depend on the length of time needed to destroy any microorganisms and also to cook the food. These losses will be greater for larger cans and in foods that are solid such as ham because of the slow transfer of heat from the outside to the centre. Losses also depend on the acidity of the food and the presence of light and air.

Dehydration when carefully controlled, has little effect on most nutrients, but destroys about half of the vitamin C. Vitamin B1 (thiamine) is completely lost if sulphur dioxide is added as a preservative as in fruit products (dried apricots) and items like sausages. Prolonged sun-

drying, as in the production of raisins, allows substantial changes to occur. Suitable packaging of dried foods is essential to prevent nutrient losses during extended storage.

The loss of nutrients associated with cooking is greatest at high temperatures and over a long time, or if an excessive amount of liquid is used.

Various techniques can be used to protect the nutrient content and quality of the food e.g. freezing, canning, and dehydration.

### ***Stability of individual nutrients***

Protein is changed (in a process called **denaturation**) by heat and when heating is severe, it becomes less available for utilisation in the body. This is partly because the changes in structure make the protein more difficult to digest and partly because some of the component amino acids are changed.

Vitamin A (both in the forms of retinal and beta-carotene) are stable throughout most cooking procedures, although at high temperatures (such as occur in canning), losses occur. There are also losses during prolonged storage if light and air are not excluded.

The B vitamins are all water-soluble and most are sensitive to heat. Vitamin B1 (thiamine) is one of the least stable vitamins. It is readily dissolved out of foods into the cooking water and is easily lost in the juices of meat. It is fairly stable when heated if the food is acidic, but losses can be considerable under alkaline conditions, especially if sodium bicarbonate is added during cooking. It has been calculated that, on average, 20% of the thiamine content of all food brought into the home is lost during cooking and reheating, but the loss is greater in some foods than others. Any foods that have been preserved by the use of sulphur dioxide such as sausages, wine and some potato products will contain very little thiamine.

Riboflavin can be lost in discarded cooking water and meat juices. It is also unstable to alkali and especially sensitive to light (and so is lost from milk if a bottle is left on a doorstep).

Niacin is an exceptionally stable vitamin and will be lost only through its solubility in water.

Other B-vitamins are all soluble in water. Vitamin B6, folate and pantothenic acid are also sensitive to heat and can therefore be lost to some extent in cooking and canning.

Vitamin C is the least stable of all vitamins. In addition to being water soluble, it is very readily destroyed by air in a process called **oxidation**. The destruction of vitamin C is accelerated by heat, by alkali and by the presence of certain metals, e.g. copper and iron. Vitamin C is also rapidly oxidised when an enzyme present in fruit and vegetables is released by any physical damage to the plant, such as cutting or bruising.

Finely chopping food rather than leaving it in whole pieces can cause greater losses of vitamin C. Poor cooking practices such as prolonged boiling of green vegetables in large amounts of water, followed by keeping them hot, can result in the destruction of all the vitamin C originally present. Vitamin C is, however, partly protected by sulphur dioxide. If food is carefully prepared and correctly stored, the overall loss of vitamins and minerals need not be significant.

## Summary

1	We all need energy from food to live.
2	Protein, fat, carbohydrates and alcohol all provide energy.
3	Vitamins and minerals are essential for life, but do not provide energy and are only needed in tiny amounts.
4	Different foods provide different amounts of energy depending on the amounts of the various energy-providing nutrients they contain.
5	The amount of energy a person needs depends on a number of factors: body size and composition, whether they are male or female, how physically active they are and their age.
6	Proteins are essential constituents of all cells – we need different amounts of protein during life growth, tissue maintenance and repair.
7	Proteins can be provided by animal sources and plant sources.
8	Proteins consist of chains of amino acids.
9	Eating the right mix of food is important to provide the right balance of dispensable and indispensable amino acids.
10	Fats provide the body with energy in a concentrated form.
11	Fat is important for health, but only in small amounts.
12	Most people have too much fat in their diets and diets rich in the saturated fatty acids are linked with an increased risk of heart disease.
13	There are three major groups of carbohydrates in food: starches, sugars and fibre.
14	Starches and sugars provide energy. Fibre does not, but is important to bowel health.
15	At least half the energy in the diet should come from carbohydrates, the majority of which should come from starch.
16	Eating a lot of certain types of sugar-containing foods and drinks, especially between meals, is associated with increased risk of tooth decay.
17	Vitamins and minerals cannot be made in the body so must be provided by food.
18	Antioxidants mop up harmful chemicals in the body and prevent them from damaging cells.
19	Some vitamins help the immune system to work efficiently.
20	Most foods provide a complex mixture of nutrients.
21	A healthy diet should, therefore, consist of a variety of foods.
22	Most people need 1-2 litres of fluid a day.

## MOVING AND HANDLING PEOPLE

Caring for people will require that you help them to move about or change position, for example, in bed. It can be very difficult to do safely at times.

If you do not do it correctly, then you may injure yourself or the person. Always encourage the person to do as much as they can for themselves and get help to move the person if they are too heavy or difficult to move alone.

To help understand how to keep yourself safe, it is important to understand how the back is designed.

## The Spine

The spine or vertebral column runs from the skull to the pelvis and provides support, protection and allows movement.

The spine is made up of:

**Vertebrae** – 33 bones which make up the main structure of the spine and gives strength.

7 cervical – neck vertebrae

12 thoracic – chest vertebrae

5 lumbar – lower back vertebrae

5 sacrum – fused

4 coccyx – together

**Facer Joints** – link the vertebrae together and limit the movement.

**Intervertebral Discs** – separate the bones and act as shock absorbers. They allow free movement.

**Deep Muscles** – Support the spine in the upright position, produce power and control movement.

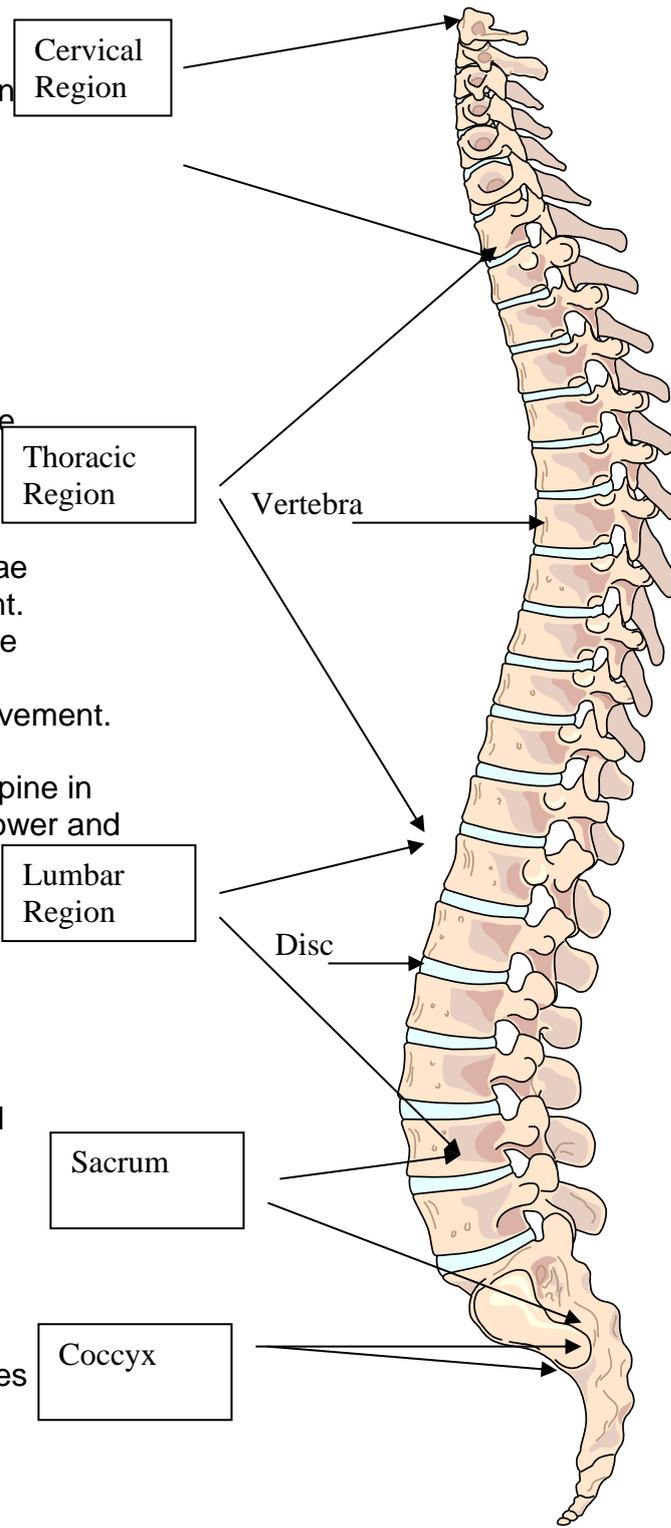
**Ligaments** – Hold the bones together and add stability of the spine.

**Spinal Cord** – Passes down through the middle of the spinal column in the spinal canal. It is, therefore protected by the vertebrae.

**Spinal Nerves** – Branch off at each level of the vertebral column and carry nerve impulses (sensory & motor) to and from the various body structures.

The spine consists of:

- ✓ 33 bones (vertebrae)
- ✓ Over 100 joints
- ✓ Over 1,000 muscles and ligaments
- ✓ Over 1,000,000 nerve endings



### ✚ The Inter-vertebral Disc

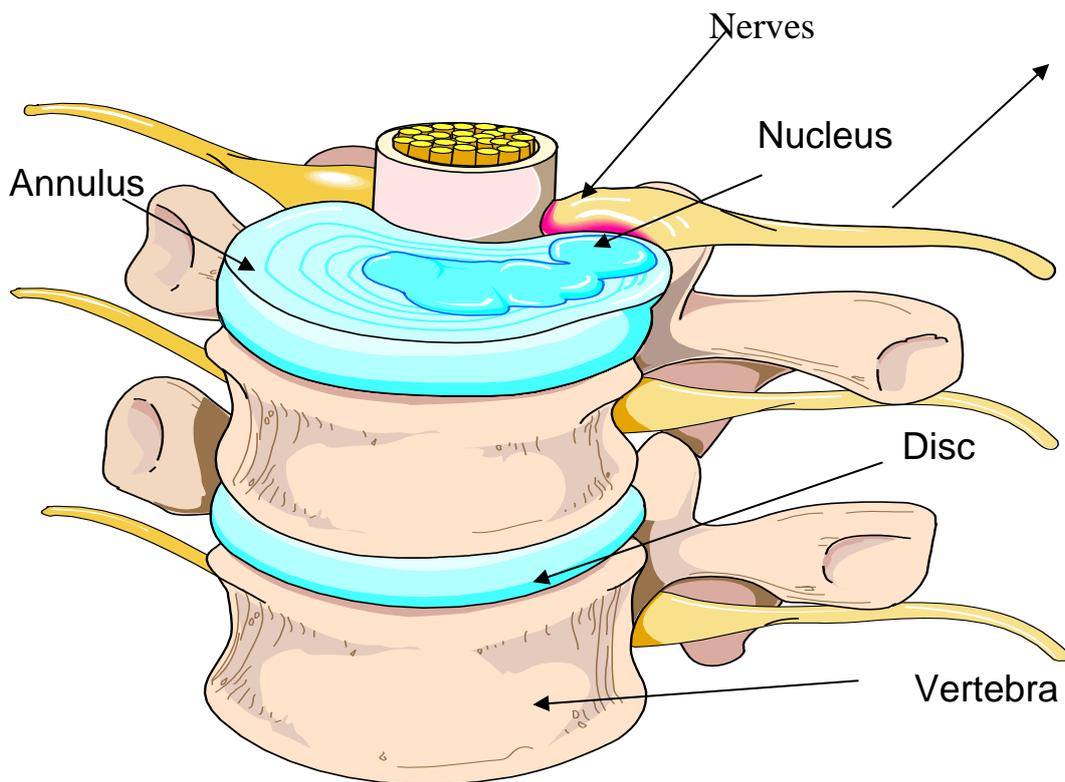
The inter-vertebral discs are made up of a strong, fibrous layer called the **annulus** and a soft, jelly-like inner layer called the **nucleus**.

### ✚ Slipped Disc/Prolapsed Disc

The term 'slipped disc' is misleading because it implies movement of the disc which does not actually occur.

In reality, the annulus gradually cracks open allowing part or the entire nucleus to 'prolapse' or seep out.

This usually occurs at the back of the disc close to where the spinal nerves emerge from the spinal cord. The pressure created by this situation causes severe pain and can incapacitate an individual for some time.



### **Hazardous situations**

- ✓ Holding an awkward posture for a long time.
- ✓ Frequently repeating awkward or heavy activities.
- ✓ Working at a speed beyond capability or that is uncomfortable.
- ✓ Insufficient rest periods between tasks or operations.
- ✓ Working in poor lighting, draughty, or cold/hot environment.
- ✓ Working with machinery that requires an awkward posture or where extra effort has to be exerted.
- ✓ Pushing, pulling or lifting heavy loads.

### **Assessing the Risk of Moving a Patient**

Before you consider moving a patient, you need to find out a few points as listed:

- ✓ Can the patient move himself or herself?
- ✓ Do they feel able to assist you in moving them?

Make your own assessment of their condition, using your common sense.

- ✓ What is the patient's weight and size?
- ✓ What are their injuries if any, and will moving them make their condition worse?
- ✓ Who is available to assist with the move?
- ✓ Are you and any helpers properly trained and physically fit?
- ✓ Will you need any protective equipment, and do you have such equipment available?
- ✓ Is there enough space around the patient to carry out the move?
- ✓ What sort of ground will you be moving the patient across?

## **GOOD HANDLING TECHNIQUE: AN INTRODUCTION TO BIOMECHANICS**

### ***The Principles of Efficient Human Movement***

A good handling technique is no substitute for other risk reduction steps such as improvement to the task, load or working environment. A good handling technique forms a very valuable adjunct to other risk control measures. It requires both training and practice. The training should be carried out in conditions that are as realistic as possible, emphasising its relevance to everyday handling operations.

Once you have decided that you must do a lift, this can be best achieved by following three simple principles.

- ✚ Principle One – Use the Centre of Gravity  
You should keep your centre of gravity low. Bend your knees.
- ✚ Principle Two – Keep Stable – Use the base of Support.  
Feet should be shoulder width apart. Lead foot slightly forward.
- ✚ Principle Three – Avoid Tension and Keep External Levers Short  
The load to be moved should be held as close to the body as possible to stop muscles from becoming fatigued.

### ***The Importance of Posture***

Poor posture during manual handling introduces the additional risk of loss of control of the load and a sudden, unpredictable increase in physical stresses. The risk of injury is increased if the feet and hands are not well placed to transmit forces efficiently between the floor and the load. A typical example of this is when the body weight is forward on the toes, the heels are off the ground and the feet are too close together.

### ***Steps To Good Handling Technique***

#### **Stop and Think.**

Plan the lift. Where is the load going to be placed? Use appropriate handling aids if possible. Do you need help with the load? Remove obstructions. For a long lift, such as floor to shoulder height, consider resting the load mid-way to change grip.

**Place the Feet.**

Have the feet shoulder-width apart, giving a balanced and stable base for lifting (tight skirts and unsuitable footwear make this difficult). Have the leading leg as far forward as is comfortable.

**Adopt Good Posture.**

Bend the knees so that the hands when grasping the load are as nearly level with the waist as possible. Do not kneel or over-flex the knees. Keep your back straight, maintaining its natural curve (tucking in the chin while gripping the load helps). Lean forward a little over the load if necessary to get a good grip. Keep shoulders level, facing in same direction as hips.

**Get a Firm Grip.**

Try to keep the arms within the boundary formed by the legs. The optimum position and nature of the grip depends on the circumstances and individual preference, but it must be secure. A hook grip is less fatiguing than keeping the fingers straight. If it is necessary to vary the grip as the lift proceeds, do this as smoothly as possible.

**Don't Jerk.**

Carry out the lifting movement smoothly, raising the chin as the lift begins, keeping control of the load.

**Move the Feet.**

If you do not move, injury can occur.

**Does the Task Involve Twisting the Trunk?**

Stress on the lower back is increased significantly if twisted trunk postures are adopted. Worse is to twist while supporting a load.

**Does the Task Involve Stooping?**

Stooping can also increase the stress on the lower back. This happens whether the handler stoops by bending the back or by leaning forward with the back straight. In each case, the trunk is thrown forward and its weight is added to the load be handled.

**Does the Task Involve Reaching Upwards?**

Reaching upwards places additional stresses on the arms and back. Control of the load becomes more difficult and, because the arms are extended, they are more prone to injury.

***The Effect of Combining Risk Factors***

Individual capability can be reduced substantially if twisting is combined with stooping or stretching. Such combinations should be avoided wherever possible, especially since their effect on individual capability can be worse than the simple addition of their individual effects might suggest.

***Dual/Team Handling***

Handling by two or more people may make possible an operation that is beyond the capability of one person, or to reduce the risk of injury to a solo handler. However, team handling may introduce additional problems which the assessment should consider.

During the handling operation, the proportion of the load that is borne by each member of the team will inevitably vary to some extent. Such variation is likely to be more pronounced on

rough ground. Therefore, the load that a team can handle in safety is less than the sum of the loads that the individual team members could cope with when working alone.

If steps or slopes must be negotiated, most of the weight may be borne by the handler or handlers at the lower end, further reducing the capacity of the team as a whole.

Team members may also impede each other's vision or movement, or if the load offers insufficient good handholds. This can occur particularly with compact loads which force the handlers to work close together, or where the space available for movement is limited.

Therefore, when carers are to work together, it is essential that the following components of dual-lifting are followed:

- ✓ Communication
- ✓ Co-operation
- ✓ Co-ordination
- ✓ Dual-lifting Advantages
- ✓ Reduction of strain on each individual
- ✓ Requirement of cost-effective equipment
- ✓ Increase in the control over awkward loads

### **Dual-lifting Disadvantages**

- ✓ Can only be used with moderately increased weights (2/3 combined capacities)
- ✓ Communication and coordination are sometimes confused
- ✓ Requires training and commitment

### ***Supporting a Patient***

There may be some times when you only need to assist a patient by giving them some support to enable them to move from one place to another. The way that this is carried out is as follows:

- Stand at the patient's weaker side. Take hold of the hand nearest to you using the palm-to-palm grip. Hold the patient's arm out straight, slightly in front of their body.
- Pass your other arm around the patient's waist to support them.
- Make sure that the patient is ready to move. Take small steps, and walk at the patient's pace. Reassure them throughout.
- If at any stage the patient starts to fall, follow the steps as laid down in controlling a fall.

### ***Controlling a fall***

If you can see that a patient is about to collapse, perhaps because they are fainting, do not try to hold them up. Instead, you need to control their fall in order to minimise the risk of injury. You should adopt the following procedure which allows the patient to slide gently to the floor without injuring either them or you.

Release your hold slightly, and move behind the patient as quickly as possible. Put your arms around the patient, but do not hold on to them. Use your arms to direct the patient's fall. Place your feet shoulder-width apart so that you have a stable base, with one foot in front of the other and knees slightly bent. Allow the patient's weight to fall back against your body, but do not attempt to support them.

Maintaining an upright posture, allow the patient to slide down your body to a sitting position on the floor. Do not attempt to hold onto the patient. Let them rest against your legs. Kneel down on the ground next to or behind the patient, and adjust their position as much as is necessary to make them comfortable. Support and reassure them.

### ***Top Heavy Bending***

Top Heavy Bending occurs when you lift, push, pull or lean forward, keeping your legs straight but inclining the trunk forward.



This leads to:

- ✓ Stiffening of the muscles as the body attempts to safeguard balance
- ✓ Pressure on the toes
- ✓ Distortion of the discs due to compression of the vertebrae
- ✓ Possible prolapse, muscle tearing, ligament damage
- ✓ Progressive stiffening and poor posture overtime

## **DEALING WITH EMERGENCIES**

In times where you have to deal with emergencies, for example if someone has fallen or is bleeding, the following is designed to help you give first-aid treatment while you are waiting for help to arrive.

In any emergency, you must follow a clear plan of action. This will enable you to prioritise the demands that may be made on you and help you decide on your response.

The principal steps are:

- Stop - Take a breath, think assessment.
- Environment – Consider the limitations.
- Traffic – Safe approach, remain alert.
- Unknown Hazards – Gas, Electrical, Fire.
- Protect yourself and the Casualty – Use barriers.

## **PRIMARY ASSESSMENT**

Your first duty when attending a casualty is to assess them for life-threatening conditions that need emergency first-aid. This initial assessment is called the **primary survey**.

- Make sure the casualty, others and YOU are safe.
- Check the casualty for response.
  - ✓ Gently shake their shoulders and speak loudly!
- Shout for help.
- Open the airway.
  - ✓ Head tilt.
  - ✓ Chin lift.
- Keeping the airway open, look, listen and feel for normal breathing.
- If they are not breathing, you will need to get help straightway and start giving CPR if they are breathing continue with the secondary assessment



Try to get a response.



Open the airway. Head tilt. Chin lift.



Listen for breathing for no more than 10 seconds.



If not breathing, commence 30 chest compressions.



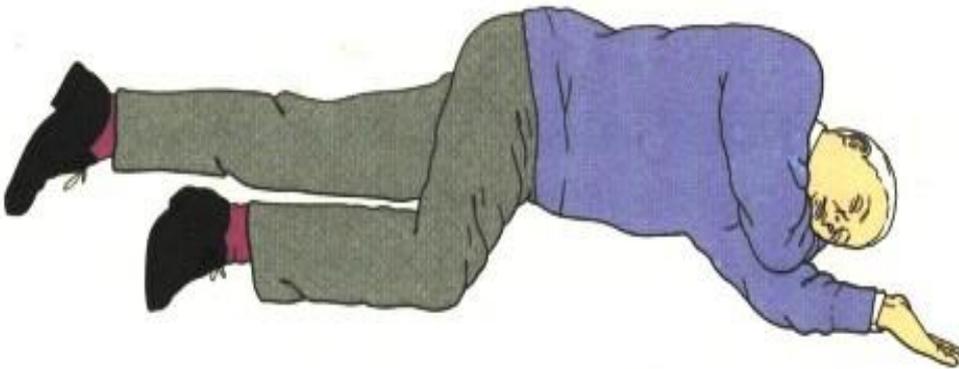
Give 2 rescue breaths, repeat 30 compressions and 2 rescue breaths until help arrives or the person starts breathing.

## SECONDARY ASSESSMENT

Once you have made sure that the casualty is out of immediate danger, and you have completed the primary assessment, carry out a **secondary assessment**. Circumstances determine how detailed the examination will be. For example, in cold, wet conditions, or when an ambulance is on its way, only major injuries need attention; the priority is to keep the casualty warm and dry. If the person can describe any of the symptoms, concentrate on treating these problems.

### ***Recovery position***

To place someone in the recovery position, lay them down and turn them onto their side, and slightly tilt the head back and in a downwards direction so any fluids from the mouth can drain away freely.



This position helps to protect the person's airway and reduce the risk of obstruction from vomit.

If the casualty has to be kept in the recovery position for more than 30 minutes, turn them onto the opposite side to relieve the pressure on the lower arm.

## TYPES OF WOUNDS

Wounds can be classified into a number of different types depending on the object that produces the wound such as a knife or a bullet, and the manner in which the wound has been inflicted. Each of these types of wound carries specific risks associated with surrounding tissue damage and infection.

- ✚ **Incised** – this is caused by a clean cut from a sharp-edged object such as a razor. Blood vessels are cut straight across, so bleeding may be profuse. Structures such as tendons, nerves or arteries may be damaged.
- ✚ **Laceration** – crushing or ripping forces result in tears or lacerations. These wounds may bleed less profusely than incised wounds, but there is likely to be more tissue damage. Lacerations are often contaminated with germs, so the risk of infection is high.
- ✚ **Abrasion** – this is a superficial wound in which the topmost layers of skin are scraped off, leaving a raw, tender area. Abrasions are often caused by a sliding fall or a friction burn. They can contain embedded foreign particles that may result in infection.

- ✚ **Contusion** – a blunt blow or punch can rupture capillaries beneath the skin, causing blood to leak into the tissues. This process results in bruising. The skin occasionally splits. Severe contusion may indicate deeper damage, such as a fracture or an internal injury.
- ✚ **Puncture** – an injury such as standing on a nail or being pricked by a needle will result in a puncture wound. It has a small entry site but deep track of internal damage. As germs and dirt can be carried far into the body, the infection risk is high.
- ✚ **Gunshot** – a bullet or other missile may drive into or through the body, causing serious internal injury and sucking in clothing and contaminants from the air. The entry wound may be small and neat; any exit wound may be large and ragged.

## TYPES OF BLEEDING

- ✚ **Arterial** – Bright red spurts from the wound in time with the heartbeat.
- ✚ **Venous** – Dark red vein walls are capable of great distension; gushes profusely from wound.
- ✚ **Capillary** – Oozing occurs at the site of all wounds. Blood loss is usually slight.

### *Treatment for bleeding*

- Lay the casualty down.
- Raise legs (if possible).
- Apply direct pressure.
- Apply indirect pressure.
- Treat for shock.
- Get to medical aid ASAP.

## TYPES OF FRACTURES

- ✚ **Closed** – the skin is not broken.
- ✚ **Open** – there is a wound and the bone end maybe sticking out.
- ✚ **Greenstick** – common with children; the bone splinters.
- ✚ **Complicated** – there is damage to other structures within the body; it can be open or closed.

### *Signs and Symptoms*

- ✓ Deformity, swelling and bruising at the fracture site.
- ✓ Pain and difficulty in moving the limb.
- ✓ Shortening, bending or twisting of the limb.
- ✓ Coarse grating of bone ends.

## ***Treatment of Fractures***

- Advise the casualty to keep still.
- Support injured part.
- For firmer support, bandage injury to an unaffected part of the body.
- Get to medical aid ASAP.
- Check circulation every 10 minutes.

## **TYPES OF BURNS**

When the skin is damaged by burning, it can no longer function effectively as a natural barrier against infection. In addition, body fluid may be lost because tiny blood vessels in the skin leak tissue fluid (serum). This fluid either collects under the skin to form blisters or leaks through the skin's surface. By assessing a burn before you start treatment, you can judge whether there are likely to be any related injuries, significant fluid loss or infection.

- ✚ **Dry Burn** – caused by flames; contact with hot objects such as domestic appliances or cigarettes; friction as in rope burns.
- ✚ **Scald** – steam; hot liquids such as tea and coffee, or hot fat.
- ✚ **Electrical Burn** – low voltage as used by domestic appliances; high voltage currents as carried in mains overhead cables.
- ✚ **Cold Injury** – frostbite; contact with freezing metals; contact with freezing vapours such as liquid oxygen or liquid nitrogen.
- ✚ **Chemical Burns** – industrial chemicals including inhaled fumes and corrosive gases; domestic chemicals and agents such as paint stripper, caustic soda, weed killers, bleach, oven cleaner or any other strong acid or alkali.
- ✚ **Radiation Burns** – sunburn; over-exposure to ultraviolet rays from a sunlamp or exposure to a radioactive source such as an X-ray.

## ***Depth of Burns***

Superficial– this only involves the outmost layer of the skin. It is characterised by redness, swelling and tenderness.

Partial Thickness – this only affects the epidermis. The skin becomes red and raw. Blisters form over the skin due to fluid release.

Full Thickness – this affects all layers of the skin. There may be some damage to the nerves, fat tissue, muscles and blood vessels.

## ***Treatment of Burns***

- Cool with water.
- ✓ 10 minutes for heat burns.
- ✓ 20 minutes for chemical burns.

- Cover with a clean, non-adherent dressing.
- Urgent ambulance transport if the burn is severe.
- Treat for shock if the burn is severe. Ensure that chemicals are flushed from the skin. Pay special attention to eyes.
- Do not overcool and cause shivering.
- Do not use creams or ointments unless prescribed.
- Do not attempt to remove material adhering to the burn.
- Do not prick blisters.

Burns to the face inevitably have an effect on the casualty's breathing, and these effects may take some time to appear. It is important that any casualty who has inhaled smoke, fumes or superheated air, or has been burnt on the face, should seek medical aid as soon as possible after the incident. Remember, severe burns can lead to shock and massive infection if not treated properly!

## **DEALING WITH SHOCK**

If shock is not treated promptly, it can become life-threatening.

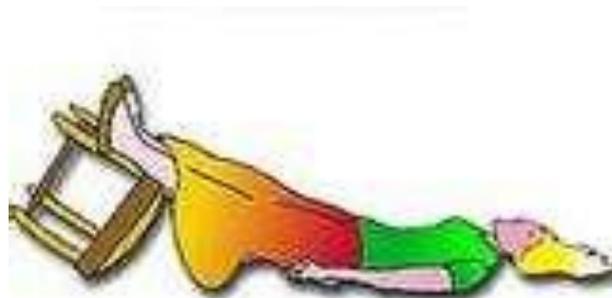
### ***Signs and Symptoms***

- ✓ Pale, cold and clammy skin.
- ✓ Rapid, weak pulse.
- ✓ Rapid, shallow breathing.
- ✓

### **Plus, there may be:**

- ✓ Giddiness.
- ✓ Thirst.
- ✓ Sweating.
- ✓ Restlessness, anxiety or aggression.
- ✓ Air hunger (the person appears to be trying to swallow air).
- ✓ Unconsciousness.

### ***Emergency Treatment***



- Call for medical aid.
- Lay the person down and elevate their legs.
- Stay with the person and reassure them. If they become unconscious, place them in the recovery position. If they stop breathing, commence CPR.

## CHOKING

Choking is due to the lodgment of a foreign object in the casualty's airway (trachea). In some instances, the object lodges at the **epiglottis** i.e. the entry to the airway, but does not actually enter the trachea. Both cases cause initial coughing, and the body's reflex action is to dislodge the object. If an object is firmly lodged in the airway, coughing at least keeps it high in the trachea though may not expel it. Coughing with an object at the entrance to the airway, however, will generally cause it to be expelled.

For mild obstructions, encourage the person to continue coughing for severe obstructions.

### **Care and Treatment for Adults**

- Give 5 back blows if this fails to release the object.
- Give abdominal thrusts up to 5 times.



- Repeat 5 back blows and 5 abdominal thrusts up to 3 times.
- If this is unsuccessful, call for emergency help and continue with the cycles of 5 back blows/5 abdominal thrusts until help arrives or the casualty becomes unconscious and not breathing.
- If this happens, commence CPR. Check the airway first to determine if the object has been dislodged before starting CPR.

### **Signs and Symptoms of severe airway obstruction**

- ✓ absence of breathing
- ✓ agitation and distress; grabbing the throat
- ✓ no sound upon coughing; inability to speak
- ✓ cyanosis (blue color)
- ✓ eventual collapse