

CHEST SERIES C3

TUBERCULOSIS IN THE 21ST CENTURY



Chest
Heart &
Stroke
Scotland



**Chest
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Stroke
Scotland**



**Chest Heart &
Stroke Scotland
improves the
quality of life for
people in Scotland
affected by chest,
heart and stroke
illness, through
medical research,
influencing public
policy, advice and
information and
support in the
community.**

FUNDRAISING

Chest Heart & Stroke Scotland is a wholly independent Scottish charity. We receive no core funding from Government or any public body or private agency and rely entirely on the Scottish public to raise the £7 million a year we need to help people with chest, heart and stroke illness throughout Scotland.

RESEARCH

We are one of Scotland's largest charitable funders of medical research, with a programme worth over £600,000 a year. We fund research projects throughout Scotland into all aspects of the prevention, diagnosis, treatment and social impact of chest, heart and stroke illness.

PERSONAL SUPPORT GRANTS

We provide small grants to people in financial difficulty, because of chest, heart or stroke illness, for items ranging from disability equipment and household goods to respite care and holidays.

VOLUNTEER SERVICES

We give support to people whose communication skills are impaired after a stroke and those living with heart failure. The Volunteer Stroke Service (VSS) provides weekly group meetings and home visits for patients. The Heart Failure Support Service (HFSS) provides volunteer befrienders to reduce social isolation.

CHSS NURSES

Our nurses provide independent practical advice and support to those who have chest, heart and stroke illnesses, their families, carers and health professionals. There are dedicated nursing services in Fife, Forth Valley, Grampian, Highland, Lanarkshire, Lothian and Dumfries and Galloway. There is also a Scotland wide nurse led Advice Line (0845) 077 6000. Calls are charged at a local call rate (out of hours answerphone). We have a wide range of booklets, factsheets and videos on chest, heart and stroke illnesses.

COMMUNITY SUPPORT NETWORK

CHSS provides support to affiliated chest, heart and stroke clubs through the Community Support Network. The clubs are independent and are run by local volunteers. The groups provide a range of activities and offer people support, stimulation and companionship in a friendly and relaxed environment. Please ask for more information.

**FOR FURTHER INFORMATION ABOUT ANY OF
THE SERVICES ABOVE PLEASE CONTACT HEAD
OFFICE BY PHONING 0131 225 6963 OR VISIT
www.chss.org.uk**

**TUBERCULOSIS
IN THE 21ST
CENTURY**

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This booklet provides information about pulmonary TB. For information about other forms of TB please contact TB Alert (see the ‘Useful addresses and websites’ section at the end of this booklet.)

INTRODUCTION

What is tuberculosis?

Tuberculosis (TB) is a disease which is usually caused by the germ *Mycobacterium tuberculosis*. TB can be described as ‘active’ or ‘latent’.

If you have active TB this means that TB germs are alive and active within your body. Active TB is potentially infectious when TB affects the lungs (i.e. it can spread from one person to another) and requires treatment.

If you have latent TB this means that, though you have live TB germs within your body, the germs are inactive (or ‘dormant’). Latent TB is not infectious (i.e. it does not spread from one person to another), however, a small percentage of people with latent TB can go on to develop active, infectious TB at some point in the future.

TB can affect any part of the body but the lungs are most commonly affected. This form of TB is called pulmonary TB.



Patients queuing for chest x-ray screening in Princes Street Gardens, Edinburgh 1958.

Brief history of TB

Historically, in the 1850s, TB (or ‘consumption’ as it was known) was responsible for about 1 in 8 deaths in the UK and in Scotland alone 7,000 people died annually from the disease.

Fortunately, in time, effective drug treatment was developed. Multi-drug treatment was found to be the most effective way of treating TB, known as ‘The Edinburgh Method’. Much of this work was supported by the National Association for the Prevention of Tuberculosis (NAPT) – now CHSS.

The use of vaccinations and better living conditions helped to make TB fairly uncommon by the 1980s.

However, over the last 20 years numbers in the UK have increased. In 2009 there were just over 9,000 cases of TB (all types) in the UK (14.6 per 100,000 of the population) and 485 cases in Scotland (9.3 per 100,000 of the population). These figures were up by 4.2% compared with 2008.

For the 1st time in 20 years, figures started to decline in 2010 when a total of 8483 cases were reported in the UK (13.6 per 100,000 of the population.)

Why is TB more common again?

There are many factors that may be contributing to the increase of TB in the UK. These include:

- Poverty and homelessness: especially in inner-city areas (e.g. London).
- Immigration to the UK from countries with a high incidence of TB: currently over half of the people diagnosed with TB in the UK were born abroad.
- Increase of long distance travel and flights: especially to countries where TB is more common.
- HIV infection is on the increase and it makes people more susceptible to developing TB.
- Lack of awareness of symptoms: people may not consider that their symptoms could be due to TB.



WHAT ARE THE SYMPTOMS OF TB?

The most common symptoms of active TB include:

- a persistent cough, lasting 3 weeks or longer, that gets progressively worse
- loss of weight for no obvious reason
- persistent fever
- night sweats
- coughing up sputum with or without blood
- loss of appetite
- feeling generally tired and unwell

Remember that any of these symptoms could be due to another illness or condition.

Latent TB does not have any symptoms.



HOW IS TB DIAGNOSED?

Active TB

If you are concerned about any symptoms you are having you should talk to your doctor. If your doctor suspects that you might have active TB you will need:

- a chest x-ray
- to give sputum (or ‘spit’) samples: usually a total of 3 samples, taken on consecutive days

If TB is found in the sputum samples a diagnosis of active pulmonary TB will be confirmed. TB bacteria are slow growing, so it can take up to a couple of months to get all the results back from your sputum samples. Sometimes treatment is started (e.g. if you have symptoms or changes on your chest x-ray which suggest TB) before all the results are back.

After you have been diagnosed with active TB you will be asked about people who you have been in ‘close and lengthy’ contact with (e.g.

people who live in the same house or are a close family member and / or have had more than a total of 8 hours, close contact with you since you became infected). These people will usually be contacted and invited for screening. This is called ‘contact tracing’ and is used to identify / treat people who may be infected with TB.



Latent TB

To become infected with TB you normally need to have close and lengthy contact with someone with active TB (e.g. you live in the same house or are a close family member and / or have had more than a total of 8 hours, close contact since the person became infected).

If this has been the case there is a chance you may have caught TB. Therefore you will be offered a check-up (screening) by a TB specialist even if you do not have any symptoms. Sometimes close friends or work colleagues who have spent a lot of time with an infected person will also be offered a check-up.

You may need to have some tests to see whether you have latent TB. These tests can show whether you have ever been in contact with TB germs and may include:

- a chest x-ray
- skin test: known as a Mantoux test
- a specific TB blood test: known as Interferon-gamma test

WHAT IS THE TREATMENT FOR TB?

TB can be curable, and you can make a full recovery, as long as you complete all of your treatment. TB treatment is exempt from prescription charges. Some people are infected with a ‘drug-resistant’ strain of TB. Other people develop drug-resistant TB because they fail to complete all of their treatment. Unfortunately, infections with drug-resistant strains of TB are very hard to treat. So, although you may start to feel better 2 or 3 weeks after starting your treatment you must complete the whole course of treatment. This may take as long as a year in some cases.

People can still die from TB if it is not treated properly or if treatment is stopped early.

Active TB

If you have active TB you will need to be treated with special antibiotics. A combination of antibiotics is always used to reduce the risk of TB becoming resistant to one (or more) of the drugs.

In the UK the standard treatment for active TB is a combination of:

- 3 or 4 antibiotics for 2 months. These are usually isoniazid, rifampicin, pyrazinamide and ethambutol.

Followed by a combination of:

- 2 antibiotics for a further 4 months (or longer). These are usually isoniazid and rifampicin.

You may be given vitamin B6 (pyridoxine) when being treated with isoniazid to minimise potential side effects.

Your treatment will last at least 6 months but may take as long as a year.

Although you may start to feel better 2 or 3 weeks after starting your treatment you must complete the whole course of treatment.

If you do not complete your full course of treatment your TB may come back in a 'drug-resistant' form. When this happens your TB will be more difficult to treat as the usual TB antibiotics will not work.

It is now common to be treated for TB at home. You will not usually be admitted to hospital unless there is a clear need for this, e.g. you are very unwell, you are homeless or your living conditions are unsafe, or treatment has been sanctioned by a court order.



Latent TB

Some people with latent TB can go on to develop active, infectious TB at some point in the future. So, if you are diagnosed with latent TB your doctor will assess you to see whether you need treatment.

In general, you will be offered treatment for latent TB if:

- you are under 36 years old
- you are over 36 years old and a healthcare worker
- you are on, or about to start, treatment that suppresses your immune system
- you are HIV positive
- tests show you may benefit from treatment

In general, you will not be offered treatment for latent TB if:

- you are 36 years old or older
- you are not HIV positive
- you have existing liver disease

The reason you may not be offered treatment is because there is a risk of liver damage from anti-TB drugs. However, if in these cases it is decided to offer you treatment you will be closely monitored.

Latent TB is treated with the same antibiotics used to treat active TB. Usually 6 months of a single antibiotic (isoniazid or rifampicin) or 3 months of combined treatment of both antibiotics is given.

Again it is important to complete the full course of your treatment. If you stop your treatment before the course is finished you may still have TB germs within your body. These germs could develop into active TB at some point in the future.

Overseeing your treatment

Help is available to ensure you complete your full course of treatment. You will usually be seen by a TB / respiratory nurse who will oversee your treatment, offer advice and answer any questions you may have.

You may need additional help to complete your TB treatment, e.g. if you find it difficult to take your drugs regularly. This support is available through a programme called Directly Observed Treatment (DOT). DOT can be very successful and is used throughout the world as part of controlling modern-day TB.



Side effects of treatment

TB treatment involves taking several drugs every day for at least 6 months. Like all treatments some of the drugs may cause side effects for some people.

If you notice any of the following side effects you should speak to your TB / respiratory nurse, or doctor, **as soon as you can**. You may be able to take an alternative antibiotic.

- problems with your eyes, e.g. blurred vision or loss of vision
- feeling sick, stomach upsets
- dizziness
- rash and / or itchy skin
- pins and needles or ‘tingling feeling’ in arms and / or legs
- effects on your liver, e.g. jaundice (yellow tinge to skin and eyes), malaise and weakness, confusion / irritability, swollen tummy, lack of appetite



Rifampicin can make your body secretions (e.g. urine, tears) a reddish orange colour. This is normal and nothing to worry about. If you wear soft contact lenses they may also change colour.

Rifampicin also interacts with a wide variety of drugs, in particular all forms of hormonal contraception. Therefore you must use another form of contraception during your treatment for TB if this applies to you. Also, if you take drugs to control epilepsy you may need to alter your dose.

You must tell your doctor / nurse about any other drugs you are taking including any vitamins or supplements.



THE SPREAD OF TB

How does TB spread?

Active TB is infectious and can spread from one person to another. It is spread through droplets in the air when someone with active TB coughs or sneezes. However, it takes close and lengthy contact with an infectious person to catch TB.

Not everyone with pulmonary TB is infectious. Once treatment has started you will normally stop being infectious after approximately 2 weeks as long as you have taken all of your drugs as prescribed. You must, however, continue with the full course of your treatment (see treatment section).

Pulmonary TB can also spread, through the bloodstream, and cause infection in other parts of your body.

Who is more likely to catch TB?

Anyone can catch TB though some people are more at risk than others. This includes people who:

- have had close and lengthy contact with someone with active TB (e.g. people who live in the same house or are a close family member and / or have had more than a total of 8 hours, close contact since the person became infected)
- are homeless, sleeping on the streets or living in unhealthy / overcrowded conditions
- have weakened immune systems due to illness (e.g. HIV infection) or treatment (e.g. chemotherapy, long-term steroid therapy or organ transplant)
- have diabetes or advanced kidney disease

- inject drugs or misuse alcohol
- have been in prison
- have a poor diet and / or are malnourished
- have lived, worked or stayed for a long time in a country with a high rate of TB, such as south-east Asia, sub-saharan Africa and some countries in eastern Europe *
- may have previously been exposed to TB
- have parents that come from a country with a high rate of TB

What do I do if someone I know has TB?

If you have been in close contact with someone with active TB, and there is a risk you may have the infection, you will be offered screening by a TB specialist.

To catch pulmonary TB you usually need to have close and lengthy contact with a person who has active TB (e.g. you live in the same house or are a close family member and / or have had more than a total of 8 hours, close contact since the person became infected). Sometimes close friends or work colleagues who have spent a lot of time with an infected person will also be offered screening.

* List of countries with the highest incidence of TB worldwide in alphabetical order:

Afghanistan	Indonesia	South Africa
Bangladesh	Kenya	UR Tanzania
Brazil	Mozambique	Thailand
Cambodia	Myanmar	Uganda
China	Nigeria	Viet Nam
Democratic Republic of Congo	Pakistan	Zimbabwe
Ethiopia	Philippines	
India	Russian Federation	

Further information about the epidemiology of TB is available in 'The Annual Global TB Control Report', produced by The World Health Organisation (WHO)

PREVENTION OF TB

Is there a vaccine to prevent TB?

The BCG (Bacillus Calmette-Guerin) is a vaccine which can help protect against TB. However the BCG does not prevent TB in all cases.

BCG works best to prevent the more serious forms of TB in children.

The BCG vaccination programme that used to be delivered in schools has been replaced with a risk-based programme.

This targets babies, children and other individuals who are at greatest risk of exposure to TB:

- babies and children (up to 16 years) whose parents or grandparents come from an area with high rates of TB (more than 40 cases per 100,000 of the population)
- those, up to age 35 years, at occupational risk (e.g. health care workers, prison workers)
- those, up to age 35 years, moving to or living in areas with a high rate of TB for more than 3 months
- traced contacts of people with TB (up to the age of 35 years who have not been previously vaccinated)
- those, up to age 35 years, entering the UK from high-risk countries

Only those people who have specific risk factors for TB will be offered a BCG vaccination.

How else can the spread of TB be prevented?

The most successful ways to prevent the spread of TB are:

- recognising the symptoms as soon as possible
- getting a prompt diagnosis and starting treatment quickly
- ensuring a full course of treatment is completed
- good TB contact tracing to quickly identify / treat people who may be infected with TB

An early diagnosis of TB can help to stop it spreading. So it is important to be aware of the symptoms of TB.

Travelling / working abroad

BCG is not recommended as a routine travel vaccination.

If you are under 35 years of age and are going to visit, work or live for more than 3 months in a country with a high incidence of TB, it is important that you are protected against TB. You may need a BCG vaccination. Ask for advice at your doctor's surgery or phone NHS 24 (08454 242424).

If you want to have immunisation and you don't fit the criteria you may have to arrange to have it through a private travel clinic.

The most important action to safeguard public health is to ensure that TB is diagnosed promptly and that treatment is completed.

USEFUL ADDRESSES AND WEBSITES

TB Alert

Community Base
113 Queens Road
Brighton
BN1 3XG

TB Helpline: 01273 234770 or 0845 456 0995

Helpline email: info@tbalert.org

Website: www.tbalert.org

TB Alert is a charity dedicated to raising awareness about TB and fighting TB worldwide.

The World Health Organisation (WHO)

www.who.int/tb/en/

WHO is working to dramatically reduce the burden of TB, and halve TB deaths and prevalence by 2015, through its Stop TB Strategy and supporting the Global Plan to Stop TB.

The Truth about TB

www.thetruthabouttb.org

This website is part of a campaign to get people talking and thinking about TB.

TB Survival Project

www.tbsurvivalproject.org

The TB survival project has patient stories on it.

All-Party Parliamentary Group on Global Tuberculosis (APPG on Global TB)

www.appg-tb.org.uk

The APPG on Global TB was established in 2006. The overall purpose of the APPG is to raise the profile of the global tuberculosis epidemic (which includes the growing incidence of TB in the UK) and to help accelerate efforts to meet international TB control targets.

Health Protection Scotland (HPS)

www.hps.scot.nhs.uk/resp/tuberculosis.aspx

Health Protection Scotland (HPS) aims to strengthen and co-ordinate health protection in Scotland. It provides advice, support and information, including data on Scottish figures for TB, to health professionals, national and local government, the general public and a number of other bodies that play a part in protecting health.

Contact the Chest Heart & Stroke Scotland Advice Line nurses for confidential, independent advice.



**The line is open
Monday – Friday
9.30 – 4.00**

**0845 077 6000 or
0131 225 6963**

Out of hours answering machine.

Email: adviceline@chss.org.uk

The information contained in this booklet is based on current guidelines and is correct at time of printing. The content is also put out to peer, patient and expert review. If you have any comments about this booklet please contact Lorna McTernan, Health Information Manager, at the address on the facing page.

CHEST PUBLICATIONS

Booklets

- C1** Living with COPD
- C2** Understanding oxygen therapy
- C3** Tuberculosis in the 21st century
- C4** Living with bronchiectasis
- C5** Living with pulmonary fibrosis (Due 2012)

Factsheets

- F1** Smoking
- F6** Holidays
- F7** Insurance companies
- F8** Suggested booklist
- F13** Air travel for people affected by chest, heart and stroke illness
- F18** Coping with tiredness
- F22** How to make the most out of a visit to your doctor
- F23** Living with stress and anxiety
- F24** Healthy eating
- F26** Understanding help in the community
- F30** Just move
- F32** Pulmonary rehabilitation FAQs

Other Materials

Remember to take your inhalers' fridge magnets

A full publication list is available from Head Office.
Rosebery House, 9 Haymarket Terrace, Edinburgh EH12 5EZ
Tel: 0131 225 6963

ORDER FORM

Please send me the following:

TITLE	No. of copies

Up to 100 booklets free, up to 100 factsheets free

If you wish to order more than 100 booklets or factsheets please contact the Health Information department at the address above.

Name: _____

Address: _____

Postcode: _____ Tel: _____

WHERE TO FIND US

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5 Mealmarket Close
Inverness IV1 1HT
Open Mon – Fri

www.chss.org.uk



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Chest Heart & Stroke Scotland is a wholly independent Scottish charity. We receive no core funding from Government or any public body or private agency.

We need your help to achieve our aim of improving the lives of those in Scotland with chest, heart and stroke illness. You can help by volunteering your time with our services, by supporting your local Regional office or as a fundraiser. You can help by giving now and in the future, by making a donation, organising a local fundraising event, leaving us a gift in your will or by setting up a regular Direct Debit.

If you would like to speak to one of our Advice Line nurses in confidence, phone Chest Heart & Stroke Scotland Advice Line.

**Monday – Friday
9.30am – 4.00pm**

**0845 077 6000 or
0131 225 6963**

Email us: adviceline@chss.org.uk

There is a text relay service for the hearing-impaired.

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