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Cardiovascular Risks Guideline (Adults)

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1 Introduction

Cardiovascular disease (CVD) describes disease of the heart and blood vessels caused by the process of atherosclerosis. It is the leading cause of death in England and Wales, accounting for almost one-third of deaths (National Institute for Health and Care Excellence (NICE), 2014 [online]).

CVD shows strong age dependence and predominantly affects people older than 50 years. Risk factors for CVD include:

- Non-modifiable factors - such as age, sex, family history of CVD and ethnic background.
- Modifiable risk factors - such as being overweight, obesity, smoking, raised blood pressure, increased alcohol consumption, and cholesterol (NICE, 2014 [online], NHS, 2018 [online]).
- People with Serious/Severe Mental Illness (SMI) show a 53% higher risk of having CVD, 78% higher risk for developing CVD, and an 85% higher risk of death from CVD compared to the general population. CVD is often present at an earlier age in this patient group (Public Health England (PHE), 2019 [online]).

CVD is largely preventable, through a combination of lifestyle changes and health promotion such as PHE and NHS action on smoking and tobacco addiction, being overweight, obesity, tackling alcohol misuse and food reformulation (NHS Long Term Plan, 2019 [online]).

TEWV NHS Foundation Trust provides care to a diverse range of service users across several specialties and localities, all of whom require varying degrees of need and support. As reiterated by NHS England, 2019 [online], care provision is variable, with some groups of people continuing to experience inequalities. TEWV NHS Foundation Trust is therefore fully committed to ensuring that patients receive care that is individualised, holistic and evidence based, and that fair and equal treatment is offered to all. No one should have a poorer service or a lesser experience because of their differences, inclusive of CVD prevention and management. It is in keeping with this principle that this guideline has been written.

This guideline reflects the Trust's strategic direction of travel, Our Journey to Change, by supporting its values and goals:

To co-create a great experience for our patients, carers and families, so you will experience:

- **Outstanding** and compassionate care, all of the time.
- **Access** to the care that is right for you.
- **Support** to achieve your goals.
- **Choice** and control.

To co-create a great experience for our colleagues, so you will be:

- **Proud**, because your work is meaningful.
- **Involved** in decisions that affect you.

- **Well led** and managed.
- That your workplace is **fit for purpose**.

To be a great partner, so we will:

- Have a **shared understanding** of the needs and the strengths of our communities
- Be **working innovatively** across organisational boundaries to improve services.
- Be **widely recognised** for what we have achieved together.

Living our values is integral to the care we deliver. We will show respect to patients and their families, by actively listening to their concerns and acting upon them. We will ensure we are always compassionate, kind and supportive. We will be open and honest in our conversations, always receptive (listening) to how much information a person may want, and in what kind of format.

This guideline also supports the Trust's strategic goals. It is important that we work closely with the person and/or their families, so that the experience can be as good as it possibly can be, working to ensure the person has as much choice and control as possible. We will work closely with our Trust colleagues, so they feel supported in working with the person and their family.

Finally, we will ensure we work in close partnership with the other agencies involved with the person, such as their GP, the voluntary and charity sector and secondary health services, to ensure seamless and compassionate care.

2 Purpose

Following this procedure will help the Trust to:-

- Standardise practice for all clinical staff in relation to the screening, monitoring and management of cardiovascular risks.
- Support medical and nursing staff through the process required to ensure that service users receive safe, effective, and appropriate care that is supported by current national guidance and best practice.
- Support people who are at risk of cardiovascular disease or who have cardiovascular disease.
- Provide people with the opportunity to make informed decisions about their care and treatment, in partnership with their healthcare professions.
- Promote the long-term management of modifiable risk factors.
- Assist and promote staff to assess cardiometabolic risk using the Lester Tool (2014 [online]).

3 Who this procedure applies to

This policy applies to all healthcare professionals working within TEWV NHS Foundation Trust who have a responsibility to screen, monitor, review and/or manage cardiovascular risk and/or cardiovascular associated conditions.

Consideration has also been given to those who may be affected by this guideline to ensure that the document content aligns to the Trust's values, so that people who may be affected are treated with compassion, respect and responsibility.



Respect

- Listening
- Inclusive
- Working in partnership



Compassion

- Kind
- Supportive
- Recognising and Celebrating



Responsibility

- Honest
- Learning
- Ambitious

4 Related documents

This guideline describes what you need to do to implement the 'policy section' of the Physical Health and Wellbeing Policy.



The Physical Health and Wellbeing Policy defines a clear purpose, objectives and standards relating to physical health care provision which you must read, understand, and be trained in before carrying out the procedures described in this document.

This procedure also refers to:-

- ✓ Alcohol Detoxification: Inpatient Clinical Algorithm
- ✓ Clinical Link Pathway Frailty (which includes falls in MHSOP only)
- ✓ Consent to Examination or Treatment Policy
- ✓ Diabetes Management for Inpatients Guideline
- ✓ Lester Tool
- ✓ Nicotine Management Policy
- ✓ Management of Coexisting Mental Illness and Substance Misuse (Dual Diagnosis) Policy
- ✓ Managing Substance Misuse on Trust Premises Policy
- ✓ Managing Substance Misuse on Trust Premises Procedure
- ✓ MSS25 Tobacco Smoking, Smoking Cessation and Psychotropic Drugs Guidance
- ✓ Physical Health and Wellbeing Policy

- ✓ Procedure for Using the National Early Warning Score (NEWS) for the Early Detection and Management of the Deteriorating Patient
- ✓ Protocol for Management of Substance Misuse in Inpatient Settings
- ✓ QRISK®3
- ✓ Stop Smoking Products Guidance
- ✓ TEWV Nutrition and Body Mass Index Clinical Link Pathway

5 Guidance

5.1 Risk Factors for CVD

The underlying cause of CVD is the formation of plaques of atheroma in the walls of blood vessels. There are many risk factors that increase the likelihood of forming atheroma and its rate of development. Risk factors are categorised as non-modifiable or modifiable, and include the risks associated with comorbidities (NICE 2014 [online]).

Non-modifiable Risks	Modifiable Risks
<ul style="list-style-type: none"> • Age: CVD is most common in people over 50 and the risk increases with age • Gender: at all ages, men have a higher risk of CVD than women, although from age 75 the risk of stroke is greater for women • Family history of CVD • Ethnic background: for example, people of South Asian, African, or Caribbean origin have an increased risk of CVD than European origin 	<ul style="list-style-type: none"> • Smoking • Low blood level of high-density lipoprotein cholesterol (HDL-C) • High blood level of non-HDL-C • Sedentary lifestyle/lack of physical activity • Unhealthy diet • Alcohol intake above recommended levels. Excess alcohol consumption can increase cholesterol and blood pressure levels, and contribute to weight gain • Overweight and obesity • Raised Blood Pressure

Comorbidities that can increase the risk of developing CVD include:

- Hypertension
- Diabetes and Pre-diabetes/Metabolic Syndrome
- Chronic Kidney Disease (CKD)
- Dyslipidaemia (familial and non-familial). Some drugs can cause dyslipidaemia such as antipsychotics, immunosuppressants and corticosteroids
- Atrial Fibrillation (AF)
- Rheumatoid Arthritis and Systemic Inflammatory Disorders
- Overweight and Obesity
- Influenza
- Serious/Severe Mental Illness (SMI)
- Periodontitis

5.1.1 CVD, SMI and Antipsychotic Medications

Cardiovascular morbidity and mortality are increased 2-3-fold overall in people with a SMI. The life expectancy of people with a SMI can be up to 20 years less than the general population (NHS Long Term Plan, 3.93, p69), largely due to CVD, including heart disease, heart attack, and stroke. The risk of dying from CVD is 85% higher than people of a similar age in the general population. This increased risk is particularly marked in younger individuals with SMI, in whom prevalence of CVD is 3.6 times higher, compared with a 2.1-fold increase in people who are older than 50 years. The rates of CVD and mortality have fallen in the general population over the last 20 years, but these benefits have not been shared by people with SMI (Sartorius et al, 2015 [online]).

Recent research shows that people with SMI, including schizophrenia, bipolar disorder and major depression are at a 53% higher risk of having CVD than those without, and a 78% higher risk of developing CVD over the longer term. PHE (2018 [online]) published their paper; 'Severe Mental Illness and Physical Health Inequalities: Briefing.' This briefing highlights the variation in physical health conditions between service users diagnosed with a SMI and the general population and reports the prevalence of hypertension was estimated as 1.4% greater in the SMI population than the general population, whilst the prevalence of atrial fibrillation (AF) was 0.5% greater in the SMI population compared to that of the general population. In addition, Chou et al (2017) report their findings that pharmacological treatment with an antipsychotic medication was associated with a 17% increased risk of atrial fibrillation compared to non-users.

Antipsychotic medications, mood stabilisers and some antidepressants not only increase appetite (and therefore potentially cause weight gain and obesity), but also, can affect the lipid profile of an individual and cause raised blood glucose (Schizophrenia Commission, 2012), all of which can ultimately have a negative impact on an individual's physical health.

The risk of significant weight gain is well recognised with some frequently used medications such as antipsychotics (Clozapine, Olanzapine) and some mood stabilisers. It is recommended individuals who are newly prescribed antipsychotic medication are assessed on commencement of their regimen, and again, at least once after 3 months (NICE, 2014 [online]). Weight should be assessed weekly in the first 6 weeks of taking a new antipsychotic, as rapid early weight gain may predict severe weight gain in the longer term.



Consider referral and/or obtain specialist advice from Trust dietetic services regarding specific changes to an individual's weight (whether this is weight gain or weight loss).

NICE (2014 [online]) also recommend that prior to starting antipsychotic medication, best practice is to offer the individual an electrocardiogram (ECG) if the history and/or physical examination has identified a specific cardiovascular risk (such as diagnosis of high blood pressure or associated co-morbidity) and/or if there is a personal or family history of CVD.

Service users experiencing SMI (psychosis, bipolar disorder and schizophrenia) should have their cardiometabolic health risk screened using the Lester UK Adaptation Tool (2014 [online]) which recommends service users are assessed for each of the following:

- Smoking Status/History
- Lifestyle and Life Skills
- Body Mass Index (BMI)/Weight
- Blood Pressure
- Glucose Regulation
- Blood Lipids

The Lester Tool (2014 [online]) also promotes the offering of appropriate interventions and targets to improve an individual's physical health. For example, where a service user is found to have raised blood pressure, clinicians are advised to follow the relevant NICE guidance, or, a high cholesterol result should promote further assessment of their CVD risk using the QRISK®-3 Tool (qrisk.org 2018 [online]).

Service users who do not experience a SMI but have been identified as having an increased risk of CVD should be assessed using a validated CVD risk assessment tool (NICE, 2014 [online]). The NHS Health Check, as recommended by the Department of Health, is a national risk assessment, awareness and management programme for those aged 40 to 74 living in England who do not have an existing vascular condition, and who are not currently being treated for certain risk factors. The NHS Health Check is aimed at identifying risks associated with and preventing heart disease, stroke, diabetes, kidney disease and dementia (PHE, 2019 [online]). For further information refer to **Section 5.2.2 NHS Health Check**.

It is well recognised individuals with SMI die much earlier than those without, yet the majority of these premature deaths may be preventable with collaborative physical and mental health care that

includes robust assessment, appropriate intervention and monitoring and, which prioritises positive lifestyle changes such as; increasing activity, improved nutrition and promoting smoking cessation. Such care, alongside the cautious prescribing of certain medication (i.e. antipsychotic) can potentially reduce the risks associated with CVD.

5.2 Risk Assessment for CVD

5.2.1 QRISK®-3 Assessment

The risk of developing CVD should be estimated using the QRISK®3 (ClinRisk, 2018 [online]) assessment tool (NICE, 2019 [online]). The QRISK®-3 is an annually updated algorithm which calculates the risk of having a heart attack or stroke over the next 10 years. It is based on factors such as smoking and diabetes status, ethnicity and social background, SMI, medication etc., and has been updated from QRISK®-2 since several new parameters have been added. The algorithm includes information on the following risk factors:

- Age
- Sex
- Cholesterol/HDL Ratio
- Blood Pressure (including blood pressure treatment)
- Diabetes
- Smoking Status
- Self-assigned Ethnicity
- Family History (of premature coronary heart disease in a first degree relative under the age of 60)
- Deprivation (measured using the Townsend deprivation score)
- Body Mass Index (BMI)
- Rheumatoid Arthritis (RA)
- Chronic Kidney Disease (CKD)
- Atrial Fibrillation (AF)

QRISK®-3 (ClinRisk, 2018 [online]) includes more factors than QRISK®-2 to help enable clinicians to identify those at most risk of heart disease and stroke i.e.

- Chronic Kidney Disease (CKD) which now includes Stage 3
- Migraine
- Corticosteroids
- Systemic Lupus Erythematosus (SLE)
- Atypical Antipsychotics
- Severe Mental Illness (SMI)
- Erectile Dysfunction
- Systolic Blood Pressure Variability

A score of 10% or more indicates a need for further intervention in order to lower risk.

Identifying and assessing CVD risk using the QRISK®-3 Tool:

- People experiencing SMI and who are older than 25 should have their estimate of CVD risk reviewed on an ongoing basis.
- Prioritise people for a full formal risk assessment if their estimated 10-year risk of CVD is 10% or more.
- Discuss the process of risk assessment with the person identified as being at risk, including the option of declining any formal risk assessment.
- Repeat the assessment every five years, but earlier if any significant changes occur in the family history or knowledge of the family history.
- Consider using the QRISK®-3 for people with type 1 diabetes mellitus or chronic kidney disease (CKD) stages 3, 4, or 5.
- Be aware that all CVD risk assessment tools can provide only an approximate value for CVD risk. Interpretation of CVD risk scores should always reflect informed clinical judgement.
- Use the QRISK®-3 to assess CVD risk for the primary prevention of CVD in people up to and including age 84 years.
- **Do not** use QRISK®-3 for people aged 85 years or over - consider these people to be already at high risk of developing CVD because of age alone, especially smokers and people with high blood pressure.

(NICE, 2019 [online])

For further information, guidance and recommendations relating to the use of the QRISK®-3 Tool, please refer to: [NICE Clinical Knowledge Summaries - CVD Risk Assessment and Management](#), also: [QRISK®-3](#) and [NICE CG181 Cardiovascular Disease: Risk Assessment and Reduction, including Lipid Modification](#).

5.2.2 NHS Health Check

The [NHS Health Check](#) (2019) is a free health check-up for adults in England aged 40-74 who have **not had a stroke or do not already have a pre-existing health condition** i.e.

- Heart Disease
- Heart Failure
- High Blood Pressure
- Atrial Fibrillation
- Peripheral Arterial Disease
- Inherited High Cholesterol (Familial Hypercholesterolemia)
- Stroke
- Transient Ischaemic Attack
- Chronic Kidney Disease
- Diabetes

- Currently prescribed statins to lower cholesterol
- Previous checks have already established that the individual has a 10% or higher risk of developing CVD over the next 10 years (QRISK®-3)

The NHS Health Check is important as it will help to:

- Detect potentially life-threatening health conditions or diseases earlier
- Increase chances for treatment and care
- Limit risk of complications by closely monitoring existing conditions
- Increase lifespan and improve health

Anyone meeting the criteria for a NHS Health Check should receive a letter from their GP surgery or local council inviting them for a free health check appointment every 5 years. The individual can also contact their GP surgery to book their own NHS Health Check.

The NHS Health Check is designed to identify early signs of stroke, kidney disease, heart disease and type 2 diabetes. As people get older, there are at a higher risk of developing one or more of these conditions. The NHS Health Check helps find ways to lower this risk. During the health check, discussion will take place on how to reduce the risk of the conditions mentioned. It will also include discussion relating to dementia and, if the person is over 65, they should also be advised of the signs and symptoms of dementia. (This is currently under review to possibly include <65yrs and ask further questions about the persons' mental health).

The NHS Health Check will usually take about 20 to 30 minutes to complete and the person undertaking the health check (either a Doctor, Nurse or Healthcare Assistant) will ask questions about the individual's lifestyle i.e. smoking, alcohol use, dietary intake and physical activity/exercise. They will also ask if there is a known family history of any medical conditions such as diabetes, CVD, CKD, or if anyone in the family has had a stroke, heart attack etc. The assessor will also measure the person's height and weight to enable a calculation of body mass index (BMI) and record their waist circumference if it is appropriate to do so. A blood pressure (BP) reading will be obtained, and blood tests completed either before, or at the health check. The results from the blood tests can indicate the chances of developing heart disease, stroke, kidney disease and diabetes. The individual's heart age may be calculated using the Heart Age Test. This informs the person of their heart age compared to their real age and can be really helpful in understanding and establishing risk. A person's heart age can often be lowered by making changes to their lifestyle and advice will be given by the assessor.

Following the NHS Health Check the results will be broken down and the person will be provided with their cardiovascular risk of developing a heart or circulation problem (such as heart disease, stroke, type 2 diabetes or kidney disease) over the next 10 years. This risk is calculated by using the QRISK®-3 algorithm which presents the average risk of people with the same risk factors as those entered for that person - <https://qrisk.org/three>.

The healthcare professional may describe the risk as low, moderate or high:

- Low - less than a 10% chance of a heart or circulation problem in the next 10 years
- Moderate - a 10% to 20% chance of a heart or circulation problem in the next 10 years
- High - more than a 20% chance of a heart or circulation problem in the next 10 years

It is worth noting that cardiovascular risk rises with age, so at subsequent NHS Health Checks the risk score may be higher, even if the test results remain the same. There are some elements about the individual's risk that cannot change, such as age, ethnicity and family history. But the most important factors such as smoking, cholesterol level and blood pressure can be modified with appropriate support and interventions.

The person will receive personalised advice on how to improve their risk. This could include talking about how to **eat well**, the **benefits of exercise**, treatment options to lower **blood pressure** and/or **cholesterol**, and also, how to **lose weight** or **stop smoking**.

5.3 Reducing the Risks of CVD

Most deaths caused by CVD are premature and could be potentially prevented by making positive lifestyle changes, such as; healthy eating, maintaining a healthy weight, regular physical activity and smoking cessation. Lifestyle changes play an important role when managing the risks of CVD, particularly in relation to hypertension and high cholesterol.

All NHS staff have a role to play to help improve the health and wellbeing of service users, colleagues and or communities, using a **Making Every Contact Count (MECC)** approach to behaviour change. This involves having a brief discussion as opportunities arise to help support people to make positive changes to their physical and mental health and wellbeing.

MECC focuses on the lifestyle issues that, when addressed, can make the greatest improvement to an individual's health:

- Stopping smoking
- Drinking alcohol only within the recommended limits
- Healthy eating
- Being physically active
- Keeping to a healthy weight
- Improving mental health and wellbeing

For more information and resources see **Making Every Contact Count (MECC)** and/or **Health Education England, E-Learning for Healthcare Platform**.

Service users who are prescribed medication for the management of hypertension and high cholesterol are specifically advised to adopt health lifestyle changes (British Heart Foundation, 2019a and 2019b [online], NICE, 2014 [online]).



Service users on antipsychotic medication are at an increased risk of developing physical health comorbidities such as; diabetes, heart disease, stroke, weight gain and obesity. Support must be offered to service users who receive antipsychotic medication in relation to specific positive lifestyle interventions: smoking cessation, encouraging a healthy diet and education regarding the importance of physical activity is essential to reduce the cardiometabolic risk.

As previously mentioned, service users with a SMI should have their physical health assessed using the Lester Tool Framework.

The Lester Tool (2014 [online]) also promotes the use of offering appropriate interventions to improve an individual's physical health, and therefore helps to reduce the risks of CVD.



Healthcare professionals must ensure that the information and advice they provide is within their scope of practice. Where necessary, appropriate referral or signposting to the relevant service, specialism or clinician should be undertaken. Wherever possible, the individual service user should be encouraged to make informed decisions about their treatment and care.

5.3.1 Weight Management

In England, 26% of men and 24% of women are obese. This may be as high as 40-52% for people with a SMI (Bradshaw, 2014). A healthy, balanced diet plays a vital role in promoting good physical and mental health wellbeing. All patients should be encouraged to have a healthy diet and any specific concerns relating to weight gain (expressed by either an individual patient or a staff member) should prompt service users being supported to manage their weight as described below.

Body mass index (BMI) is a measurement of an individual's weight in relation to their height (weight in kg/ height in metres²). BMI is used to classify an individual's weight status. BMI should however, be interpreted with caution as it is not a direct measurement of an individual's adiposity levels (NICE, 2014 [online]) and can be affected by other factors such as high muscle mass and oedema. Measurement of an individual's waist circumference can provide additional information about an individual's risk of developing comorbidities relating to being overweight or obese (including CVD). Staff should be guided by dietetic advice and a multi-disciplinary approach utilised to minimise the risks of CVD associated with being overweight and obesity.

The Department of Health and Social Care have published their national obesity strategy - [Tackling Obesity: Empowering Adults and Children to Live Healthier Lives](#) (2020 [online]). This strategy also

emphases that *'obesity is associated with reduced life expectancy. It is a risk factor for a range of chronic diseases, including cardiovascular disease, type 2 diabetes, at least 12 kinds of cancer, liver and respiratory disease, and obesity can impact on mental health'*.

Given the scale and impact of being overweight and/or obesity amongst those with mental health problems and/or a learning disability in our region, the Strategic Clinical Networks, Public Health England, local authorities, mental health and learning disability trusts, primary care, service users, and carers, and Health Education England have collaboratively developed a regional north east weight management plan for people in contact with mental health and learning disability secondary care services: **A Weight Off Your Mind**. The full plan and easy read version can be found alongside a range of resource for professional and the public at:

[A Weight off Your Mind: A Plan for People with Lived Experience of Mental Health Conditions and/or Learning Disabilities Receiving Support from Northumberland, Tyne and Wear \(NTW\) and Tees, Esk and Wear Valleys \(TEWV\) NHS Foundation Trusts to Achieve a Healthy Weight.](#)

The Trust has also developed a Nutrition and BMI Clinical Link Pathway which is used across all inpatient services. This pathway uses the St Andrew's Healthcare Nutrition Screening Instrument (SANSI) to identify over or under nutrition and signpost service users to a range of interventions to support them in managing their weight. Interventions include: information, dietary change/education, physical activity and exercise, psychological interventions and therapies, signposting and pharmacological interventions.

Service users in the community can be signposted to a range of interventions via:
A Weight off Your Mind page on the Trust website: <https://www.tewv.nhs.uk/about-us/woym/>

Dietary modifications for the primary and secondary prevention of CVD:

- Advise people at high risk of or with CVD to eat a diet in which total fat intake is 30% or less of total energy intake, saturated fats are 7% or less of total energy intake, intake of dietary cholesterol is less than 300 mg/day and where possible saturated fats are replaced by mono-unsaturated and polyunsaturated fats.
- Advise people at high risk of or with CVD to:
 - reduce their saturated fat intake.
 - increase their mono-unsaturated fat intake with olive oil, rapeseed oil or spreads based on these oils and to use them in food preparation.
- Advise people at high risk of or with CVD to do all of the following:
 - choose wholegrain varieties of starchy food
 - reduce their intake of sugar and food products containing refined sugars including fructose
 - eat at least 5 portions of fruit and vegetables per day
 - eat at least 2 portions of fish per week, including a portion of oily fish

- eat at least 4 to 5 portions of unsalted nuts, seeds and legumes per week.
- Advise pregnant women to limit their oily fish to no more than 2 portions per week and to avoid marlin, shark and swordfish.
- Take account of a person's individual circumstances – for example, drug therapy, comorbidities, cultural differences, and other lifestyle modifications when giving dietary advice
- Advise and support people at high risk of or with CVD to achieve a healthy diet in line with [NICE's guideline on behaviour change: general approaches](#)

Further information and advice can be found on the [NHS Eat well web page](#).

(NICE, 2014, updated 2016 [online])

For further information, guidance and recommendations relating to dietary modification for the primary and secondary prevention of CVD, please refer to: [NICE CG181 Cardiovascular Disease: Risk Assessment and Reduction, including Lipid Modification](#).

5.3.2 Physical Activity

Increasing physical activity has the potential to significantly improve both physical and mental wellbeing, reduce mortality and improve life expectancy. The UK Chief Medical Officers' national guidelines (Department of Health, 2019 [online]) for physical activity for adults recommends at least 150 minutes per weeks of moderate activity in order to maintain good cardiovascular health and to prevent or better manage comorbidities such as diabetes, stroke, cardiac problems and/or hypertension. 250 minutes or more per week is required to affect weight loss, which is the focus of 'A Weight off Your Mind' – a regional weight management plan which aims to address the weight management needs of people with mental illness and/or learning disabilities.

However, weight loss only accounts for about 10% of the cardiovascular health benefits of physical activity with even moderate amounts of regular physical activity in 10-minute bursts in someone who is otherwise sedentary having health benefits such as:

- Reducing fat around the internal organs (thus reducing the risk of comorbidities)
- Reducing chronic inflammation
- Improving cellular health and slowing ageing through process mechanisms within the cell's mitochondria
- Increasing insulin sensitivity (thus reducing cardiovascular disease, preventing diabetes, and reducing the risk of cancer)

Regular physical activity results in cardiovascular health benefits even when there is no apparent concurrent weight loss. Any activity is better than none, and more is better still.

Physical activity is recommended for nearly all service users – although the type of activity and/or exercise intensity should be tailored to suit an individual's overall health status. People who undertake physical activity regularly (or keep active), often have improved or less severe symptoms of ill health. Regular activity and/or exercise can also improve self-confidence and emotional wellbeing.

Healthcare professionals should:

- Increase their knowledge of individuals', communities' and populations' needs related to physical activity.
- Use the resources and the services available in the health and wellbeing system to promote physical activity.
- Incorporate physical activity conversations and brief advice into routine care.
- Understand specific activities or interventions that can prevent physical inactivity and signpost to their local offers.
- Help create a culture and process of physical activity within their workplace.

[UK Chief Medical Officers' Physical Activity Guidelines \(Department of Health, 2019 \[online\]\)](#)

It is the responsibility of all health care professionals to encourage and support physical activity - working up to moderate levels of intensity especially in people who have low levels of physical activity to start with.

The health benefits of physical activity for most people outweigh the potential risks which are low particularly if a person starts with low duration and intensity building up over time as the body adjusts.



Caution

The duration and intensity of physical activity should be tailored to the individual's ability, health status and usual level of fitness. For example, a 10min walk at a fast pace for someone who is usually active and fit could be perceived by them as low intensity whereas a 10min walk at a fast pace for someone who is overweight, obese and/or very unfit could be perceived as vigorous or very vigorous intensity.

Moderate intensity = being hot and sweaty and breathing harder but still being able to speak whilst conducting the activity.

Vigorous/very vigorous intensity = being hot and sweaty and breathing much harder and not being able to speak as so out of breath.

Individuals with uncontrolled symptoms for cardiac, metabolic, renal and some musculoskeletal conditions should seek advice before greatly increasing physical activity.

Advice regarding individual service user physical activity plans should be obtained from suitably trained Trust staff who are directly employed to deliver exercise/fitness instruction (such as Physiotherapists, Fitness Instructors or Healthy Living Advisors).

Service users who as part of their intervention plan are recommended to take part in supervised physical activity should have their physical health assessed by a suitably qualified health professional (such as a Physiotherapist, Junior Doctor, Physical Healthcare Practitioner or GP) to identify any potential contraindications to exercise. They may also require a further medical review.

Benefits of physical activity:

- Prevents and helps to manage conditions such as CVD, type 2 diabetes, stroke, mental health problems, musculoskeletal conditions and some cancers.
- Has a positive effect on wellbeing, mood, sense of achievement, relaxation and release from daily stress.

Physical activity includes everyday activity such as walking, cycling, work-related activity, housework, DIY and gardening. It also includes recreational activities such as working out in a gym, dancing, or playing active games, as well as organised and competitive sport.

Although individual physical and mental capabilities should be considered when recommending physical activity, general principles often include:

- Adults should aim to be active daily.
- For adults who are usually inactive, start with 10-minute bursts of physical activity such as walking at a low intensity with an aim to build up duration and intensity over time.
- Benefits can be achieved by a combination of various forms of physical activity.
- Adults should also undertake physical activity to improve muscle strength on at least two days a week.
- All adults should minimise the amount of time spent being sedentary (sitting) for prolonged periods.

For more advice see [Health Matters: Physical Activity - Prevention and Management of Long-Term Conditions \(PHE, 2020 \[online\]\)](#)

5.3.3 Smoking

Smoking is a major contributor to many serious illnesses including respiratory problems, vascular disease and various forms of cancer. Smoking prevalence is particularly high among people with mental health problems, and has changed little in this group in the past 20 years, with smoking identified as the single largest cause of the gap in life expectancy (Action on Smoking and Health, 2016 [online]).

Supporting people with mental health problems to quit smoking is the single largest, most effective intervention to reduce physical ill health and premature death (NHS England, 2016). There is evidence that people who smoke are receptive to smoking cessation advice in all healthcare settings. It is therefore important healthcare practitioners proactively ask people if they smoke and offer advice on how to stop.

The NHS Long Term Plan (NHS England, 2019 [online]) identifies the development of a new universal smoking cessation offer which will be available as part of specialist mental health services for long-term users of specialist mental health, and in learning disability services. On the advice of PHE, this will also include the option to switch to e-Cigarettes whilst in inpatient settings.

The Trust has a responsibility to support all service users and staff to reduce the harm from smoking with the aim to improve physical health. In line with the Trust's **Nicotine Management Policy** and **Stop Smoking Products Guidance** (both available on the Trust Intranet), all service users will be offered nicotine management on admission to hospital should they smoke and staff should ensure the following:

- An up to date smoking history is documented for all service users.
- The number of cigarettes smoked per day should be documented.
- Service users who continue to smoke should be advised and encouraged to stop at every opportunity (regardless of age) and offered help to do so. Again, such interventions should be documented accordingly.
- Unless contraindicated, offer nicotine replacement therapy or an e-Cigarette combined with an appropriate support programme to optimise smoking cessation rates.
- As a minimum, a weekly review of treatment should be carried out and product choice/dosage amended where indicated.

NRT can be offered to smokers over the age of 12 years and e-Cigarettes are available for those over the age of 18 years (except within secure inpatient services where e-Cigarettes are identified as a significant risk). Treatment should be offered within 30 minutes of admission to an inpatient unit, to limit the effects from nicotine withdrawal.

Service users can access additional support on discharge by linking to the national [NHS Smokefree](#) site. Staff can also access this site to stop smoking should they wish. There are also bespoke Trust wide community cessation clinics where service users can access support. Further details of these clinics are available from the Trust Smokefree Lead or Physical Health Community Clinics across the Trust.



Smoking can affect the way some psychiatric drugs are metabolised so individuals who quit smoking or restart smoking whilst taking medication should be closely monitored so that medication levels can be adjusted, if required. Particular vigilance is required for Clozapine and Olanzapine. Please refer to the Trust **Stop Smoking Products Guidance and MSS25 Tobacco Smoking, Smoking Cessation and Psychotropic Drugs Guidance**, both available via the Trust intranet.

5.3.4 Alcohol and Substance Misuse

There are high rates of co-existing substance use (alcohol and/or illicit drug use) in people with mental health problems (Department of Health, 2016).

Harmful psychoactive substance use, either alcohol or illicit drugs or both, is defined as a pattern of use that causes health problems. This could include psychological problems, such as episodes of low mood, anxiety or psychosis, and physical health problems such as acute pancreatitis or hepatitis.

In addition to harmful use, service users might present as intoxicated, in withdrawals, dependent on one or more substances or as psychotic. Service users, both inpatients and outpatients, should be screened for problematic alcohol and illicit drug use using relevant tools, for example AUDIT-C and DUDIT. Where appropriate, they should be referred to drug and alcohol services in the community.

The Trust's **Management of Coexisting Mental Illness and Substance Misuse (Dual Diagnosis) Policy** (available via the Trust intranet) explains substance misuse in more detail. Additionally, there are several other relevant documents relating to substance misuse which are also accessible to support staff:

- **Alcohol Detoxification: Inpatient Clinical Algorithm**
- **Managing Substance Misuse on Trust Premises Policy**
- **Managing Substance Misuse on Trust Premises Procedure**
- **Protocol for Management of Substance Misuse in Inpatient Settings**

5.3.5 Managing Comorbidities

Wherever possible, treatment should be optimised for conditions which are associated with an increased risk of developing CVD. The aim is to ensure that their effect on developing CVD is as small as possible. Such conditions include:

- Hypertension
- Diabetes
- Chronic Kidney Disease (CKD)

- Dyslipidaemias, such as familial Hypercholesterolaemia
- Atrial Fibrillation
- Rheumatoid Arthritis, Systemic Lupus Erythematosus and other Systemic Inflammatory Disorders
- Overweight and Obesity, especially if associated with sleep apnoea
- SMI
- Periodontitis

Refer to relevant NICE 2014 (updated 2016) [Cardiovascular Disease: Risk Assessment and Reduction, including Lipid Modification \(CG181\)](#) for guidance on treatment and ongoing management options.

5.4 CVD Associated Conditions

5.4.1 Hypertension

High blood pressure (hypertension) is one of the most important preventable causes of premature morbidity and mortality in the UK. Hypertension is a major risk factor for ischaemic and haemorrhagic stroke, myocardial infarction (MI), heart failure, chronic kidney disease (CKD), cognitive decline and premature death. Untreated hypertension is usually associated with a progressive rise in blood pressure and the vascular and renal damage that this may cause can ultimately culminate into a treatment-resistant state.

Stage 1 Hypertension	Clinic blood pressure ranging from 140/90 mmHg to 159/99 mmHg and subsequent ambulatory blood pressure monitoring (ABPM) daytime average or home blood pressure monitoring (HBPM) average blood pressure ranging from 135/85 mmHg to 149/94 mmHg.
Stage 2 Hypertension	Clinic blood pressure is 160/100mmHg or higher but less than 180/120 mmHg and subsequent ABPM daytime average or HBPM average blood pressure is 150/95 mmHg or higher.
Stage 3 or Severe Hypertension	Clinic systolic blood pressure is 180mmHg or higher or clinic diastolic blood pressure is 120 mmHg or higher. (NICE, 2019 [online])

Hypertension rarely makes people feel ill. It is often called a ‘silent killer’ because frequently there are no symptoms and therefore, it can remain undiagnosed. Often, the first time hypertension is diagnosed is when someone is admitted to hospital due to a physical health comorbidity such as a stroke or a heart problem.

In cases of severe hypertension some patients may experience symptoms including:

- Persistent headache
- Blurred or double vision
- Nose bleeds
- Shortness of breath
- Dizziness
- Chest Pain

(British Heart Foundation, 2019a [online])

All clinicians involved in the diagnosis, management and review of hypertension must be familiar with the NICE Guideline NG136: Hypertension in Adults: Diagnosis and Management including Quality Standard 28: Hypertension in Adults (NICE, 2015 [online]).

Diagnosing and Screening

When considering a diagnosis of hypertension, measure blood pressure in both arms:

- If the difference in readings between the arms is more than 15 mmHg, repeat the measurements.
- If the difference in readings between the arms remains more than 15 mmHg on the second measurement, measure subsequent blood pressures in the arm with the higher reading.

If pulse irregularity is present, blood pressure must be measured using a **manual device** (NICE, 2019 [online]).



Report any systolic (top reading) of 140mmHg or higher and/or a diastolic (bottom reading) of 90mmHg or higher to a member of the medical team or Physical Healthcare Practitioner.

A patient with a blood pressure measuring at 140/90 mmHg or higher, or 130/80 mmHg (for those with CVD or diabetes) should be reviewed by the medical team or Physical Healthcare Practitioner and where necessary offered ambulatory blood pressure monitoring (ABPM) to confirm diagnosis of hypertension (NICE, 2019 [online], NHS RightCare Pathway, 2018 [online]).



One elevated blood pressure reading 140/90 mmHg or higher does not necessarily indicate a diagnosis of hypertension. Follow guidance published by NICE (2019 [online]) to ensure diagnosis is made appropriately and in accordance with best practice:

[NICE Guideline NG136: Hypertension in Adults: Diagnosis and Management](#)

While waiting for confirmation of a diagnosis of hypertension, perform investigations for target organ damage e.g. chronic kidney disease, and complete a cardiovascular risk assessment.

Tests should include:

- 12 lead ECG
- Blood tests to measure urea and electrolytes, creatinine, estimated glomerular filtration rate (eGFR), glucose, HbA1c, serum cholesterol and HDL cholesterol, and full blood count.
- Examine the fundi for the presence of hypertensive retinopathy.
- Proteinuria can be a marker of kidney damage and patients with higher levels of protein in their urine are at increased risk of developing heart disease and progressive kidney damage.
- Do not use reagent strips to identify proteinuria unless they are capable of specifically measuring albumin at low concentrations and expressing the result as an albumin/creatinine ratio (ACR).
- Urine laboratory testing for albumin/creatinine ratio (ACR) advised by NICE (2015 [online]).
Confirmed ACR of 3 mg/mmol or more is clinically important proteinuria.



If a patient has severe hypertension: 180 mmHg or higher or a diastolic blood pressure of 120 mmHg or higher (without signs and/or symptoms indicating same day referral), perform investigations for target organ damage. If target organ damage is identified consider starting antihypertensive drug treatment immediately, without waiting for the results of ABPM. If no target organ damage is identified, repeat clinic blood pressure measurement within 7 days.

If a patient has severe hypertension: 180 mmHg or higher or a diastolic blood pressure of 120 mmHg or higher (with signs and/or symptoms indicating same day referral), refer for specialist (same day) assessment. Signs and/or symptoms which indicate same day referral are:

- Signs of retinal haemorrhage or papilloedema (accelerated hypertension) or
- Life-threatening symptoms such as new onset confusion, chest pain, signs of heart failure, or acute kidney injury.

Refer people for specialist assessment, carried out on the same day, if they have suspected pheochromocytoma (for example, labile or postural hypotension, headache, palpitations, pallor, abdominal pain or diaphoresis).

NICE, 2019 [online]

Treatment:

For patients diagnosed with hypertension, there are a number of drugs and treatment options that may be considered (including a combination of different drugs). When initiating a drug for hypertension, prescribers should refer to [NICE Guideline NG136: Hypertension in Adults: Diagnosis and Management](#) and/or local guidelines as appropriate.



Caution

Certain antihypertensive medications may interact with Lithium. Before initiating antihypertensive drugs for patients taking Lithium seek further information from the Trust's Guidelines on Safe Lithium Prescribing and Shared Care.

Prior to initiating treatment, consideration should also be given to the potential falls risk of the individual (particularly if there is a history of postural dizziness or postural hypotension (NICE, 2019 [online]). For Mental Health Services for Older People (MHSOP), refer to Clinical Link Pathway Frailty (which includes falls in MHSOP only).

Medication:

- **Angiotensin-Converting Enzyme (ACE) Inhibitors**

Medications which reduce the activity of an enzyme called angiotensin-converting enzyme (ACE). The enzyme has a narrowing effect on blood vessels, leading to an increase in blood pressure. ACE inhibitors work by relaxing and widening the blood vessels, which lowers blood pressure.

- **Angiotensin-II Receptor Blocker (ARB)**

Medications that block angiotensin II, a hormone that causes blood vessels to narrow. ARBs maybe used as an alternative to ACE inhibitors.

- **Calcium Channel Blockers (CCB)**

Medications that reduce the amount of calcium entering the arterial muscle cells, therefore causing them to relax and widen. This then helps to lower blood pressure.

- **Diuretics**

Medications that work on the kidneys to increase the output of water and salt in the urine, and therefore lower blood pressure.

Other medications used for high blood pressure may be considered where there are difficulties controlling blood pressure, presence of heart failure, or unacceptable side effects. These medications are known as alpha-blockers and beta-blockers.

(British National Formulary, 2021 [online])



Blood pressure measurements should be used to monitor the response to antihypertensive treatment. After initiating or amending hypertensive medication, all patients should be reviewed and monitored in order to evaluate their response to pharmacological therapy.

5.4.2 Atrial Fibrillation

Definition:

Atrial fibrillation (AF) is a common abnormal heart rhythm or arrhythmia. It causes the heart to beat abnormally, which may be experienced as a fluttering sensation (British Heart Foundation, 2021 [online]).

AF is the most common sustained cardiac arrhythmia. If left untreated, AF is a significant risk factor for stroke, and other comorbidities. Men are more affected than women and its prevalence further increases with age (NICE, 2021 [online]).

Signs and Symptoms:

- Breathlessness/Dyspnoea
- Palpitations
- Syncope/Dizziness
- Chest Discomfort
- Stroke and/or Transient Ischaemic Attack (TIA)
- Falls
- Reduced exercise tolerance

Diagnosis and Assessment:

- Thorough robust history and examination.
- An irregular pulse may indicate underlying AF. When recording physical observations, all patients must have manual pulse palpation to assess for an irregular pulse (and therefore potentially indicating AF). Manual pulse palpation to assess for the presence of an irregular pulse should also be performed if the afore mentioned symptoms are noted (NICE, 2021 [online]).
- Perform an electrocardiogram (ECG) for all people, whether symptomatic or not, in whom AF is suspected because an irregular pulse has been detected.
- If AF is a new presentation, check history to exclude triggers and perform sepsis screen, urea and electrolytes, thyroid function test, liver function tests, full blood count. Treat or refer to the Acute Hospital Trust as appropriate.
- Consider referral for specialist input as per [NICE Guideline NG196: Atrial Fibrillation: Diagnosis and Management](#) (2021 [online]).

Treatment

- When initiating drug treatment for AF, the prescribing clinician should refer to [NG196: Atrial Fibrillation: Diagnosis and Management](#) (2021 [online]) and/or local guidelines as appropriate.
- Consideration should also be given to long term anticoagulation therapy based on potential stroke and bleeding risks by utilising the CHA2DS2VASC Score and ORBIT score as outlined in [NG196: Atrial Fibrillation: Diagnosis and Management](#) (2021 [online]) and/or local guidelines as appropriate.

- It is important to offer people with AF an individualised package of care that enables individuals wherever possible to make informed decisions about their care and treatment, in partnership with their healthcare professionals.

The plan of care should be clearly documented within the electronic care record and all key information regarding:

- Stroke awareness including preventable measures
- Rate control
- Assessment of symptoms for rhythm control
- Who to contact for advice if needed
- Psychological support if needed
- Up-to-date and comprehensive information on cause, effects and possible complications of atrial fibrillation
- Management of rate and rhythm control
- Anticoagulation

(NICE, 2021 [online])

Trust staff should consider specialist input from either the GP or the Acute Hospital Trust if assistance and/or support is required to ensure a comprehensive plan of care is implemented and continued.

All clinicians involved in the diagnosis, management and review of AF must be familiar with the [NICE Guideline NG196: Atrial Fibrillation: Diagnosis and Management](#).

5.4.3 Raised/High Cholesterol

Cholesterol is a fatty substance which is found in the blood. Blood fats are known as lipids. Cholesterol and other lipids cannot travel freely in the bloodstream and are therefore attached to proteins, forming tiny spheres known as lipoproteins. Cholesterol plays a vital role in the normal functioning of the body, and particularly that of the brain, nerves and skin. Cholesterol is mainly produced by the liver but can also be found in some foods. High levels of cholesterol in the blood (hypercholesterolaemia) can increase the risk of atherosclerosis (narrowing of the arteries), myocardial infarction (MI), and stroke. There is no single cause of high cholesterol; however contributory factors include:

- Eating a diet that is high in saturated fat
- Obesity
- Smoking
- Lack of physical activity
- Kidney or liver disease

Familial hypercholesterolaemia (FH) is an inherited condition where cholesterol levels are exceptionally high from birth, despite a person leading a healthy lifestyle. Predominantly CVD affects people above the age of 50; however, people with FH are at much higher risk due to their duration of hypercholesterolaemia.

(British Heart Foundation, 2019b [online])

Diagnosis and Assessment

As mentioned, cholesterol is carried in the blood by proteins and when the two combine they form lipoproteins. There are two types of lipoproteins;

- low-density lipoproteins (LDL) which are harmful.
- high-density lipoprotein (HDL) which are protective.

NICE (2014 [online]) state that the measurement of non-high density lipoprotein (non-HDL) is a better CVD risk indicator than LDL alone. Non-HDL cholesterol is total cholesterol minus HDL cholesterol.

- Non-HDL is referred to as 'bad cholesterol'.
- HDL is referred to as 'good cholesterol' and higher levels are better.

There is another type of blood fat called triglycerides. Triglycerides enter the blood stream after a meal. They are also made by the liver. Triglycerides are packaged into lipoproteins along with cholesterol. When triglycerides reach the cells throughout the body, they are used for energy or stored for later.

A high triglyceride level in the blood should be investigated further. There can be many reasons for a high triglyceride level and it is important to find out the exact cause. Raised triglycerides can add to the overall risk of developing CVD, and if they are very high, can cause other serious problems such as pancreatitis (Heart UK: The Cholesterol Charity, 2019 [online]).

A simple blood test can show how much of the different types of cholesterol within the blood. This can help establish an individual's risk of CVD and stroke.

Sometimes cholesterol is considered as total cholesterol (TC) only. However, a break-down of the numbers is important in order to understand an individual's risk. It is possible to have a healthy TC level but an unhealthy ratio of TC to HDL. As a minimum, TC and HDL numbers should be reviewed to establish a person's cholesterol ratio.

The information below provides a general guide for ideal cholesterol and triglyceride levels for healthy adults in the UK. They are in millimoles per litre (mmol/L):

Total cholesterol (TC): <5mmol/L or 4mmol/L for those at high risk

Non-HDL cholesterol: <4mmol/L

LDL cholesterol: <3mmol/L

HDL cholesterol: > 1mmol/L for a man and > 1.2mmol/L for a woman

Cholesterol ratio (TC:HDL ratio): A ratio > 6 is considered high risk

The interpretation of cholesterol results should be made in relation to any other risk factors and other health conditions.

(Heart UK: The Cholesterol Charity, 2019 [online])

High cholesterol is often called ‘the silent killer’ because for most people there are no obvious signs and symptoms.

Signs and symptoms that may indicate concomitant high cholesterol include:

- Angina
- Myocardial infarction (MI)
- Stroke
- Intermittent Claudication
- Chronic Kidney Disease (CKD)

These symptoms are likely to be more indicative of established heart and circulatory disease. (Heart UK, 2019 [online])

Dyslipidemia is the term for unbalanced or unhealthy cholesterol levels. Whilst the term ‘cholesterol levels’ is used; a more accurate term is ‘lipid levels’.

There are different forms of dyslipidemia which includes too high cholesterol but can also refer to too low cholesterol or when the balance of total and HDL cholesterol is unhealthy.

(Diabetes UK, 2021 [online])

It is recommended that patients with the following should have their blood cholesterol levels tested:

- CVD or stroke
- Over 40 years old
- Family history of CVD
- Overweight or obese
- High blood pressure
- Diabetes
- CKD
- Prescribed antipsychotic medication

High levels of cholesterol can be diagnosed from the results of a blood test that determines the amount of HDL, non-HDL, and triglycerides.

NICE (2016 [online]) recommends a specialist assessment of people with a total cholesterol concentration of more than 9.0 mmol/L or a non-HDL cholesterol concentration of more than 7.5 mmol/L. Trust staff should consider specialist input from either the GP or the Acute Hospital Trust if assistance and/or support is required to ensure a comprehensive plan of care is implemented and continued.

As stated in section 3.1 the cholesterol/ HDC ratio should be considered as part of identifying and assessing CVD risk.

Treatment

Lifestyle modifications are key to improving cholesterol levels. People with raised cholesterol and/or raised QRISK (see **Section 5.2.1** for further information regarding QRISK) should be advised to increase their physical activity, reduce their alcohol consumption and not to smoke. People with raised cholesterol ratio and/or raised QRISK should be advised to maintain a healthy, cardioprotective diet that includes 5 portions of fruit or vegetables a day, reduced sugar intake, opting for wholegrain varieties of starchy foods, is low in saturated fat and high unsaturated (HDL) fats (NICE, 2016). Examples of these fats are as follows:

Saturated fats	Unsaturated fats
<ul style="list-style-type: none"> • Butter • Hard cheese • Whole milk • Fatty and processed meat • Biscuits, cakes and pastries • Coconut and palm oil 	<ul style="list-style-type: none"> • Olive oil and rapeseed oil • Nuts and seeds (almonds, cashews, hazelnuts, peanuts and pistachios) • Oily fish such as herring, mackerel, pilchards, sardines, salmon, trout and fresh tuna

(British Heart Foundation, 2017)

However, for some people, lifestyle modifications alone are not enough to reduce raised cholesterol and/or QRISK. Pharmacological treatment is indicated in those where a six-month trial of lifestyle modification has failed. For some, treatment with a lipid lowering drug is recommended, most commonly by offering a statin (e.g. Atorvastatin, Simvastatin). Statins inhibit an enzyme involved in cholesterol synthesis, thereby slowing down the production of cholesterol in the liver. This encourages the liver to remove the cholesterol it needs from the blood stream, and blood cholesterol levels fall (British National Formulary, 2021b [online]). Starting doses are dependent on whether CVD prevention is primary or secondary, other comorbidities (e.g. diabetes, chronic kidney disease) and tolerance/side effects (NICE, 2016).



Caution

Statin should be used with caution in those with a history of liver disease or with a high alcohol intake. Regular liver function tests should be performed.



Interaction

Patients prescribed statin therapy should be advised to avoid grapefruit and grapefruit juice as this can interfere with statins.

For further information regarding the management of raised cholesterol including drug initiation, follow up and monitoring, side effects and cautions the prescribing clinician should refer to [CG181: Cardiovascular disease: risk assessment and reduction, including lipid modification](#) as well as the BNF guidance on the specific drug being used.

6 Definitions

Term	Definition
Atheroma	Patches of atheroma are like small fatty lumps that develop within the inside lining of blood vessels (arteries). Atheroma is also known as atherosclerosis and 'hardening of the arteries'. Patches of atheroma are often called plaques of atheroma.
Atrial Fibrillation (AF)	Atrial fibrillation is the most common type of irregular heart rhythm. People usually experience an irregular and often, a fast pulse.
AUDIT-C Tool	The Alcohol Use Disorders Identification Test - Concise (AUDIT-C) is a brief alcohol screening tool that can help identify service users who are hazardous drinkers or have active alcohol use disorders (including alcohol abuse or dependence).
Body Mass Index (BMI)	BMI is a numerical measure of relative size based on the mass and height of an individual.
Cardiovascular Disease	Cardiovascular disease (CVD) describes disease of the heart and blood vessels caused by the process of atherosclerosis. The underlying cause of cardiovascular disease is the formation of plaques of atheroma that form in the walls of blood vessels. There are many risk factors that increase the likelihood of forming atheroma and its rate of development.
Chronic Kidney Disease (CKD)	Chronic kidney disease (CKD) is a long-term condition where the kidneys do not work effectively. CKD does not usually cause symptoms until it reaches an advanced stage. It is usually detected at earlier stages by blood and urine tests. Main symptoms of advanced kidney disease include: tiredness, swollen ankles, feet or hands (due to water retention), shortness of breath, nausea, blood in the urine.
Diabetes Mellitus	Diabetes mellitus is a condition characterised by raised blood glucose concentration. It is caused by an absolute or, relative lack of the hormone insulin. This means that insulin is not being produced by the pancreas, or, that there is insufficient insulin being produced, or, inadequate insulin action for the body's needs.

Dietitians	<p>Dietitians are qualified and regulated health professionals who assess, diagnose and treat dietary and nutritional problems.</p> <p>Dietitians use the most up-to-date public health and scientific research on food, health and disease which they translate into practical guidance to enable people to make appropriate lifestyle and food choices.</p>
Dyslipidaemia	Dyslipidaemia is the elevation of plasma cholesterol, triglycerides (TGs), a low-high density lipoprotein level or a combination of any of these that may contribute to the development of atherosclerosis.
E-Cig/E-Cigarette/Electronic Cigarette Tank Model E-Cigarette	A battery powered device that delivers nicotine via inhaled vapour.
Electrocardiogram (ECG)	A recording of the electrical activity of the heart.
Hypercholesterolaemia	Elevated levels of low-density lipoprotein cholesterol or non-high-density lipoprotein cholesterol.
Intermittent Claudication	Common symptom of peripheral arterial disease; pain or discomfort in the calf muscles, thighs or buttocks when you are walking or standing. The pain happens because the leg muscles aren't getting enough blood and oxygen because of narrowing of the arteries due to a build-up of atheroma.
Lester Tool	The Lester Tool is a framework which aims to guide healthcare professionals to assess the cardiometabolic health of individuals with serious mental illness in order to reduce mortality and to enable safe and effective physical healthcare.
Long Term Condition	A long-term condition also known as a chronic condition is a health problem that requires ongoing management over a period of years or decades. A long-term condition is usually one that cannot be cured but can be controlled with the use of medication and/or use of other therapies.
Myocardial Infarction	A Myocardial Infarction (heart attack) is a serious medical emergency in which the supply of blood to the heart is suddenly blocked, usually by a blood clot. Lack of blood to the heart can seriously damage the heart muscle.
NEWS	The National Early Warning Score is based on a simple scoring system in which a score is allocated to six physiological observations. Each individual observation generates a score. When all six scores are added together,

	this provides the overall NEWS which is set to trigger when a service user is acutely unwell or has abnormal physiology.
NRT	Nicotine Replacement Therapy
Periodontitis	Periodontitis is a severe form of gum disease that affects the tissues that support teeth and hold them in place
Physiotherapists	<p>Physiotherapists consider the body as a whole, rather than just focusing on the individual aspects of an injury or illness. Some of the main approaches used by physiotherapists include:</p> <ul style="list-style-type: none"> • Education and advice – physiotherapists can give general advice about things that can affect an individual’s daily lives, such as posture and correct lifting or carrying techniques to help prevent injuries. • Movement, tailored exercise and physical activity advice. Exercises may be recommended to improve general health and mobility, and to strengthen specific parts of the body. • Manual therapy – where the physiotherapist uses their hands to help relieve pain and stiffness, and to encourage better movement of the body.
Reasonable Adjustments	Removing barriers that people with disabilities face, or providing extra support for individuals with disabilities to enable them to access the healthcare they need. This could relate to people with learning and/or physical disabilities, sensory impairments and/or individuals who are neuro diverse, as well as people living with mental illness (e.g. offering extra time to individuals who have particular communication needs and offering information and advice in a language and format that the individual can understand).
SANSI	The St Andrews Nutrition Screening Instrument (SANSI) is a comprehensive screening tool developed for the use in inpatient mental health and learning disability settings.
Speech and Language Therapists (SLT)	<p>Speech and Language Therapists (SLTs) provide life-improving treatment, support and care for children and adults who have difficulties with communication, eating, drinking or swallowing. SLTs use specialist skills to:</p> <ul style="list-style-type: none"> • Assess and offer advice, resources and training to support people with communication difficulties to understand information and express their thoughts, wishes and needs. • Assess and offer advice, resources and training to support people with eating, drinking or swallowing difficulties to maximise the enjoyment and safety of their mealtimes.

	<ul style="list-style-type: none"> Work as part of the MDT to co-produce personalised support plans that the individual can understand and engage with.
Triglycerides	Triglycerides are the fats you use for energy and they come from the fatty foods you eat. You store what you do not use in the fatty tissues of your body. Excess triglycerides in the blood also increase heart problems.

7 How this procedure will be implemented

<ul style="list-style-type: none"> This procedure will be published on the Trust's intranet and external website.
<ul style="list-style-type: none"> Line managers will disseminate this procedure to all Trust employees through a line management briefing.
<ul style="list-style-type: none"> Each team/ward manager will ensure that staffs training needs are met in accordance with the Trust's training needs analysis
<ul style="list-style-type: none"> Each healthcare professional is responsible for his or her own professional development and an individual's needs should be addressed through appraisal and training needs analysis
<ul style="list-style-type: none"> Physical Health Core Skills Training (including refresher training) is available across the Trust for all mental health and learning disability registered nursing and nursing support staff.

7.1 Training needs analysis

Staff/Professional Group	Type of Training	Duration	Frequency of Training
Registered MH/LD Nursing Staff (Inpatients): AMH, Forensics, MHSOP, LD	Physical Health Core Skills Training Day (Registered Nurse: Inpatients)	1 day	Once Only
Registered MH/LD Nursing Staff (Community): All Adult Services, MHSOP, LD	Physical Health Core Skills Training Day (Registered Nurse: Community)	1 day	Once Only
Non-Registered MH/LD Nursing Support Staff inc Nursing Associates (Inpatients): AMH, Forensics, MHSOP, LD	Physical Health Core Skills Training Day (Non-Registered Nurse: Inpatients)	1 day	Once Only

Non-Registered MH/LD Nursing Support Staff inc Nursing Associates (Community): All Adult Services, MHSOP, LD	Physical Health Core Skills Training Day (Non-Registered Nurse: Community)	1 day	Once Only
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8 How the implementation of this procedure will be monitored

Auditable Standard/Key Performance Indicators		Frequency/Method/Person Responsible	Where results and any Associate Action Plan will be reported to, implemented and monitored; (this will usually be via the relevant Governance Group).
1	Clinical Audit of Physical Health Assessments	Annually	Clinical Effectiveness Group
2	Clinical Audit of the National Early Warning Score (NEWS) Procedure for patients 16 years of age and over	Annually	Clinical Effectiveness Group

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10 Document control (external)

Date of approval:	05 October 2021	
Next review date:	05 October 2024	
This document replaces:	Cardiovascular Risks Guideline (Adults) Ref: CLIN-0084-003-v2	
This document was approved by:	Name of committee/group	Date
	Infection Prevention and Control/ Physical Health Group	05 October 2021
This document was ratified by:	Name of committee/group	Date
	n/a	
An equality analysis was completed on this document on:	21 September 2021	
Document type	Public	
FOI Clause (Private documents only)	N/A	

Change record

Version	Date	Amendment details	Status
V2	23 Sept 2019	Changes to wording in sections throughout the document. Additional sections added throughout the document. Updated hyperlinks throughout the document and updated cross-referenced documents. Additional reference documents added.	Withdrawn
V2	1 July 2020	InTouch links removed and replaced with Trust policy/procedure/guideline name.	Withdrawn
V2	30 Mar 2021	Review date extended to 23 Mar 2023	Withdrawn
V3	05 Oct 2021	Full review and update with additional sections added and evidence-based references	Published

Appendix 1 - Equality Analysis Screening Form

Please note; The Equality Analysis Policy and Equality Analysis Guidance can be found on the policy pages of the intranet

Name of Service area, Directorate/Department i.e. substance misuse, corporate, finance etc.	Nursing and Governance/Physical Healthcare			
Policy (document/service) name	Cardiovascular Risks Guideline (Adults) Ref: CLIN-0084-003.v3			
Is the area being assessed a...	Policy/Strategy		Service/Business plan	Project
	Procedure/Guidance		√	Code of practice
	Other – Please state			
Geographical area covered	Trust Wide			
Aims and objectives	<ul style="list-style-type: none"> Standardise practice for all clinical staff in relation to the screening, monitoring and management of cardiovascular risks. Support medical and nursing staff through the process required to ensure that service users receive safe, effective and appropriate care that is supported by current national guidance and best practice. Support people who are at risk of cardiovascular disease or who have cardiovascular disease. Provide people with the opportunity to make informed decisions about their care and treatment, in partnership with their healthcare professions. Promote the long-term management of modifiable risk factors. Assist and promote staff to assess cardiometabolic risk using the Lester Tool (2014). 			
Start date of Equality Analysis Screening (This is the date you are asked to write or review the document/service etc.)	June 2021			

End date of Equality Analysis Screening (This is when you have completed the equality analysis and it is ready to go to EMT to be approved)	21/09/2021
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You must contact the EDHR team if you identify a negative impact - email tevv.eandd@nhs.net

1. Who does the Policy, Service, Function, Strategy, Code of practice, Guidance, Project or Business plan benefit?					
The Guideline benefits service users by standardising the processes/interventions required by staff for the screening, monitoring and management of cardiovascular risks. The information contained within the Guideline is also aimed at reducing the clinical risk(s) associated with modifiable risk factors. Similarly, the information within the Guideline will help facilitate medical and nursing staff to identify people who are at risk of cardiovascular disease or who have cardiovascular disease, and aims to ensure that service users receive safe, effective and appropriate interventions that are supported by current national guidance and best practice.					
2. Will the Policy, Service, Function, Strategy, Code of practice, Guidance, Project or Business plan impact negatively on any of the protected characteristic groups below?					
Race (including Gypsy and Traveller)	No	Disability (includes physical, learning, mental health, sensory and medical disabilities)	No	Sex (Men, women and gender neutral etc.)	No
Gender reassignment (Transgender and gender identity)	No	Sexual Orientation (Lesbian, Gay, Bisexual and Heterosexual etc.)	No	Age (includes, young people, older people – people of all ages)	No
Religion or Belief (includes faith groups, atheism and philosophical belief's)	No	Pregnancy and Maternity (includes pregnancy, women who are breastfeeding and women on maternity leave)	No	Marriage and Civil Partnership (includes opposite and same sex couples who are married or civil partners)	No

No – The Guideline will not impact negatively on any of the protected characteristic groups.
The positive impacts of the guidance are: Service users with Cardiovascular Risks receive safe, effective and appropriate care and interventions that are supported by current national guidance and best practice.

<p>3. Have you considered other sources of information such as; legislation, codes of practice, best practice, nice guidelines, CQC reports or feedback etc.? If ‘No’, why not?</p>	Yes	√	No	
<p>Sources of Information may include:</p> <ul style="list-style-type: none"> Feedback from equality bodies, Care Quality Commission, Equality and Human Rights Commission, etc. Investigation findings Trust Strategic Direction Data collection/analysis National Guidance/Reports 	<ul style="list-style-type: none"> Staff grievances Media Community Consultation/Consultation Groups Internal Consultation Research Other (Please state below) 			
<p>4. Have you engaged or consulted with service users, carers, staff and other stakeholders including people from the following protected groups?: Race, Disability, Sex, Gender reassignment (Trans), Sexual Orientation (LGB), Religion or Belief, Age, Pregnancy and Maternity or Marriage and Civil Partnership</p>				
<p>Yes – Please describe the engagement and involvement that has taken place</p>				
<p>Given that this Trust Guideline has been developed in accordance with a number of national key documents published by NICE, the Department of Health, NHS England and also, Public Health England, there has been no consultation with service users in terms of the actual writing of this document. However, there has been involvement with various healthcare professionals within the Trust. This Guideline</p>				

is therefore a standardised approach that enables clinical staff working within TEWV NHS Foundation Trust to adhere to national recommended best practice and guidance in relation to identifying risk and preventing and managing cardiovascular disease.

5. As part of this equality analysis have any training needs/service needs been identified?

Yes There are no specific training needs identified for this specific guideline. However, some of the required interventions within the guideline may be cross-referenced as training needs specific to other guidelines, policies and procedures. The Physical Health Core Skills Training is therefore identified as a training need.

A training need has been identified for;

Trust staff	Yes	Service users	No	Contractors or other outside agencies	No
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Make sure that you have checked the information and that you are comfortable that additional evidence can provided if you are required to do so

Appendix 2 – Approval checklist

	Title of document being reviewed:	Yes/No/ Not applicable	Comments
1.	Title		
	Is the title clear and unambiguous?	Yes	
	Is it clear whether the document is a guideline, policy, protocol or standard?	Yes	
2.	Rationale		
	Are reasons for development of the document stated?	Yes	
3.	Development Process		
	Are people involved in the development identified?	Yes	
	Has relevant expertise has been sought/used?	Yes	
	Is there evidence of consultation with stakeholders and users?	Yes	
	Have any related documents or documents that are impacted by this change been identified and updated?	Yes	
4.	Content		
	Is the objective of the document clear?	Yes	
	Is the target population clear and unambiguous?	Yes	
	Are the intended outcomes described?	Yes	
	Are the statements clear and unambiguous?	Yes	
5.	Evidence Base		
	Is the type of evidence to support the document identified explicitly?	Yes	
	Are key references cited?	Yes	
	Are supporting documents referenced?	Yes	
6.	Training		
	Have training needs been considered?	Yes	
	Are training needs included in the document?	Yes	
7.	Implementation and monitoring		

	Title of document being reviewed:	Yes/No/ Not applicable	Comments
	Does the document identify how it will be implemented and monitored?	Yes	
8.	Equality analysis		
	Has an equality analysis been completed for the document?	Yes	
	Have Equality and Diversity reviewed and approved the equality analysis?	Yes	04/10/2021
9.	Approval		
	Does the document identify which committee/group will approve it?	Yes	
10.	Publication		
	Has the document been reviewed for harm?	Yes	
	Does the document identify whether it is private or public?	Yes	public
	If private, does the document identify which clause of the Freedom of Information Act 2000 applies?	N/A	