

Pathophysiology

Definition

Risk factors

Lifestyle changes

Medications

Procedures

Management

Over 100 conditions
broken down by system

Cardiovascular

Respiratory

Renal

Gastroenterology

Neurology

MIND MAPS FOR NURSING

Blood tests

Investigations

ECG

CXR

Clinical features

Prognosis

Rheumatology

Immunology

Infectious diseases

Endocrinology

Mental health

Nursing specific information:

- Managing specific patient groups
- Nursing care
- Impact on lifestyle

Nicky Morrell-Scott

MIND MAPS
FOR NURSING

MIND MAPS FOR NURSING

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ISBN 9781914962301

Lantern Publishing Limited, Charlton Kings, Cheltenham, UK
www.lanternpublishing.com

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British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library

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Cover design by Andrew Magee

Typeset by Medlar Publishing Solutions Pvt Ltd, India

Printed in the UK

Last digit is the print number: 10 9 8 7 6 5 4 3 2 1

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Preface

Nursing is a profession defined by complexity, compassion and constant decision-making. Yet the way nurses learn, retain and apply information has not always kept pace with the realities of modern practice. I wrote this book of mind maps to bridge that gap – to offer nurses a clearer, more intuitive way to organise knowledge, make connections and strengthen clinical reasoning in a fast-moving environment.

Throughout my career as a nurse, educator and leader, I have seen how visual learning tools can transform confidence and competence. Mind maps distil essential information without oversimplifying it; they show relationships, patterns and priorities in a way that traditional text often cannot. Whether you are a student trying to consolidate foundational concepts, a newly qualified nurse navigating unfamiliar situations, or an experienced practitioner seeking a quick, structured refresher, these maps are designed to support you.

What makes this book different is its focus on practical clarity. Each mind map is built around real clinical thinking to provide what nurses actually need to recall, recognise and respond to. The aim is not to replace textbooks or guidelines, but to complement them with a resource that is accessible, memorable and immediately useful in practice.

My hope is that these mind maps become a companion throughout your learning and your career. They offer a way to simplify the complex, strengthen your decision-making and ultimately support safer, more confident care for the people and communities we serve.

Nicky Morrell-Scott

About the Author

Dr Nicky Morrell-Scott is a senior nurse leader, educator and researcher with over twenty years' experience spanning critical care, higher education, and workforce development. A Registered Nurse and Senior Fellow of Advance HE, she has held a series of influential academic and leadership roles, including Programme Manager, Subject Head, and Associate Dean for Education and Student Experience. Across these posts she has led major curriculum innovations, strengthened student experience, and developed award-winning programmes recognised nationally for excellence in teaching and learning.

Nicky's academic work focuses on pedagogic research, curriculum design, student engagement, and the preparation of the future nursing workforce. Her PhD explored how approaches to learning shape curriculum effectiveness and student experience, and she has since published widely on nurse education, workforce development, critical care,

and professional practice. She supervises doctoral students, contributes to editorial boards, and presents regularly at national and international conferences.

Alongside her academic career, Nicky has maintained a strong clinical identity, working for many years in critical care and continuing to champion evidence-based practice, compassionate leadership, and high-quality learning environments. She has led multiple externally funded research and innovation projects, particularly in areas relating to student retention, digital learning, and the development of the nursing and social care workforce.

Nicky is committed to supporting individuals and teams to reach their potential, drawing on her extensive experience in coaching, leadership development, and organisational change. Her work is driven by a belief in the transformative power of education and the importance of preparing nurses to deliver safe, skilled and person-centred care.

Glossary

25[OH]D	25-hydroxyvitamin D	ALF	acute liver failure
4AT	alertness, AMT4 (abbreviated mental test-4), attention, acute change/fluctuating course [delirium screening tool]	ALK	anaplastic lymphoma kinase
5-HIAA	5-hydroxyindoleacetic acid [metabolite of serotonin]	ALP	alkaline phosphatase
6MWT	6-minute walk test	ALS	amyotrophic lateral sclerosis
AAA	abdominal aortic aneurysm	ALT	alanine transaminase
AAV	ANCA-associated vasculitis	AMAN	acute motor axonal neuropathy
ABCD²	age, blood pressure, clinical features, duration of TIA, diabetes	AMSAN	acute motor–sensory axonal neuropathy
ABCDE	airway, breathing, circulation, disability, exposure	ANA	antinuclear antibody
ABG	arterial blood gas	ANCA	anti-neutrophil cytoplasm antibodies
ABPA	allergic bronchopulmonary aspergillosis	anti-CCP	anti-cyclic citrullinated peptide [antibody]
ABPI	ankle–brachial pressure index	anti-dsDNA	anti-double-stranded DNA [antibody]
ABPM	ambulatory blood pressure measurement	anti-GBM	anti-glomerular basement membrane [antibody]
ACC	American College of Cardiology	anti-HBc	anti-hepatitis B core antigen [antibody]
ACE	angiotensin-converting enzyme	anti-HBe	anti-hepatitis B envelope antigen [antibody]
ACEi	ACE inhibitor	anti-HBs	anti-hepatitis B surface antigen [antibody]
ACE2	angiotensin-converting enzyme 2	anti-Scl-70	anti-scleroderma 70 kD fragment/anti-topoisomerase [antibody]
ACE-III	Addenbrooke's Cognitive Examination	anti-Sm	anti-Smith (SLE) [antibody]
ACh	acetylcholine	ARB	angiotensin-receptor blocker
ACLS	advanced cardiac life support	ARDS	acute respiratory distress syndrome
ACR	albumin to creatinine ratio	ARNi	angiotensin receptor/neprilysin inhibitor
ACS	acute coronary syndrome	ART	antiretroviral therapy
ACTH	adrenocorticotrophic hormone	ARVC	arrhythmogenic right ventricular cardiomyopathy
ADH	antidiuretic hormone	AS	ankylosing spondylitis / aortic stenosis
ADHD	attention-deficit hyperactivity disorder	ASD	autism spectrum disorder
ADI-R	Autism Diagnostic Interview – Revised	ASPD	antisocial personality disorder
ADOS	Autism Diagnostic Observation Schedule	ASRS	ADHD Self-Report Scale
ADPKD	autosomal dominant PKD	ATN	acute tubular necrosis
AF	atrial fibrillation	AV	atrioventricular
AFB	acid-fast bacilli	AVR	aortic valve replacement
AFP	alpha-fetoprotein	axSpA	axial spondyloarthritis
AHA	American Heart Association	BAL	bronchoalveolar lavage
AHI	Apnoea–Hypopnoea Index	BCG	bacillus Calmette–Guérin
AIDP	acute inflammatory demyelinating polyradiculoneuropathy	BED	binge-eating disorder
AIDS	acquired immunodeficiency syndrome	β-hCG	beta-human chorionic gonadotrophin
AKI	acute kidney injury	BHIVA	British HIV Association
		BiPAP	bilevel positive airway pressure
		BMD	bone mineral density

BMI	body mass index	CVA	cerebrovascular accident
BMPR2	bone morphogenetic protein receptor type II gene	CVD	cardiovascular disease
BNF	<i>British National Formulary</i>	CVH	chronic venous hypertension
BNFC	<i>British National Formulary for Children</i>	CXR	chest X-ray
BNP	brain natriuretic peptide	DAA	direct-acting antiviral
BNP/NT-proBNP	B-type natriuretic peptide / N-terminal pro-BNP	DAFNE	dose adjustment for normal eating
BP	blood pressure	DASH	Dietary Approaches to Stop Hypertension
BPSD	behavioural and psychological symptoms of dementia	DaTscan	dopamine transporter scan
BSG	British Society of Gastroenterology	DBT	dialectical behaviour therapy
BSH	British Society for Haematology	dcSSc	diffuse cutaneous systemic sclerosis
BSR	British Society for Rheumatology	DEXA	dual-energy X-ray absorptiometry
C3	serum complement protein component C3	DI	diabetes insipidus
C4	serum complement protein component C4	DIC	disseminated intravascular coagulation
CABG	coronary artery bypass grafting	DIP	distal interphalangeal
CAM	confusion assessment method (delirium screening tool)	DKA	diabetic ketoacidosis
CAP	community-acquired pneumonia	DLCO	diffusing capacity of the lung for carbon monoxide
CAUTI	catheter-associated UTI	DMARD	disease-modifying antirheumatic drug
CBT	cognitive behavioural therapy	DMT	disease-modifying therapy
CBT-E	enhanced cognitive behavioural therapy	DNA	deoxyribonucleic acid
CF	cystic fibrosis	DNase	deoxyribonuclease
CFTR	cystic fibrosis transmembrane conductance regulator	DOAC	direct oral anticoagulant
CGM	continuous glucose monitoring	DOT	directly observed therapy
CGRP	calcitonin gene-related peptide	DSM-5	Diagnostic and Statistical Manual of Mental Disorders, fifth edition
CHA₂DS₂-VASc	congestive heart failure, hypertension, age (≥ 75), diabetes mellitus, stroke or TIA or thromboembolism, vascular disease, age (65–74), sex category (female)	DVT	deep vein thrombosis
CHD	coronary heart disease	EBUS-TBNA	endobronchial ultrasound-guided transbronchial needle aspiration
CHF	congestive heart failure	EBV	Epstein–Barr virus
CKD	chronic kidney disease	ECG	electrocardiography
CKS	(NICE) Clinical Knowledge Summary	ECMO	extracorporeal membrane oxygenation
CMC	carpometacarpal	ED	emergency department
CMV	<i>Cytomegalovirus</i>	EEG	electroencephalography
CNS	central nervous system	EF	ejection fraction
COPD	chronic obstructive pulmonary disease	EGFR	epidermal growth factor receptor
COVID-19	coronavirus disease 2019	eGFR	estimated glomerular filtration rate
CP	cerebral palsy	EGPA	eosinophilic granulomatosis with polyangiitis
CPAP	continuous positive airway pressure	EHRA	European Heart Rhythm Association
CPR	cardiopulmonary resuscitation	EIP	Early Intervention in Psychosis
CRP	C-reactive protein	EMDR	eye movement desensitization and reprocessing
CRT	cardiac resynchronization therapy	EMG	electromyography
CSF	cerebrospinal fluid	ENT	ear, nose, and throat
CT	computed tomography	ERCP	endoscopic retrograde cholangiopancreatography
CT KUB	CT of kidneys, ureters, and bladder	ERP	exposure and response prevention
CTEPH	chronic thromboembolic pulmonary hypertension	ESC	European Society of Cardiology
CTPA	CT pulmonary angiography	ESR	erythrocyte sedimentation rate
CURB-65	confusion, urea, respiratory rate, BP, age ≥ 65	ETV	endoscopic third ventriculostomy
CV	cardiovascular	EULAR	European Alliance of Associations for Rheumatology
		EUPD	emotionally unstable personality disorder
		EUS	endoscopic ultrasound

EVAR	endovascular aneurysm repair	ICP	intracranial pressure
FAST	face, arm, speech, time	ICS	inhaled corticosteroid / Intensive Care Society
FBC	full blood count	ICU	intensive care unit
FeNO	fractional exhaled nitric oxide	IgA	Immunoglobulin A
FEV₁	forced expiratory volume in 1 second	IgE	immunoglobulin E
FFA	free fatty acids	IGF-1	insulin-like growth factor-1
FODMAP	fermentable oligosaccharides, disaccharides, monosaccharides, and polyols	IgG	immunoglobulin G
FSH	follicle-stimulating hormone	IGRA	interferon-gamma release assay
FVC	forced vital capacity	IL	interleukin-1
GABA	gamma-aminobutyric acid	ILD	interstitial lung disease
GAD	generalized anxiety disorder	INR	international normalized ratio
GAD-7	Generalized Anxiety Disorder 7-item scale	IPF	idiopathic pulmonary fibrosis
GBS	Guillain-Barré syndrome	IRT	immunoreactive trypsinogen
GCA	giant cell arteritis	IV	intravenous
GCS	Glasgow Coma Scale	IVC	inferior vena cava
GFR	glomerular filtration rate	IVIg	IV immunoglobulin
GH	growth hormone	JAK	Janus kinase
GI	gastrointestinal	JVP	jugular venous pressure
GORD	gastro-oesophageal reflux disease	LABA	long-acting beta ₂ agonist
GPA	granulomatosis with polyangiitis	LAMA	long-acting muscarinic antagonist
GTN	glyceryl trinitrate	LBBB	left bundle branch block
H1N1	influenza A virus subtype haemagglutinin type 1, neuraminidase type 1	IcSSc	limited cutaneous systemic sclerosis
HADS	Hospital Anxiety and Depression Scale	LDH	lactate dehydrogenase
HAP	hospital-acquired pneumonia	LDL	low-density lipoprotein
HAV	hepatitis A virus	LFTs	liver function tests
Hb	haemoglobin	LH	luteinizing hormone
HbA1c	glycated haemoglobin	LMWH	low-molecular-weight heparin
HBeAg	hepatitis B envelope antigen	LOS	lower oesophageal sphincter
HBsAg	hepatitis B surface antigen	LP	lumbar puncture
HBV	hepatitis B virus	LTOT	long-term oxygen therapy
HCC	hepatocellular carcinoma	LTRA	leukotriene receptor antagonists
HCM	hypertrophic cardiomyopathy	LV	left ventricle/ventricular
HCV	hepatitis C virus	LVH	left ventricular hypertrophy
HDL	high-density lipoprotein	MAD	mandibular advancement device
HDU	high dependency unit	MBT	mentalization-based therapy
HELLP	haemolysis, elevated liver enzymes, low platelet count	MCA	middle cerebral artery
HF	heart failure	MCP	metacarpophalangeal
HFpEF	heart failure with preserved ejection fraction	MDR-TB	multidrug-resistant tuberculosis
HFrEF	heart failure with reduced ejection fraction	MDT	multidisciplinary team
HIV	human immunodeficiency virus	MELD	model for end-stage liver disease
HLA	human leukocyte antigen	MEN1	multiple endocrine neoplasia 1
HPA	hypothalamic-pituitary-adrenal	MI	myocardial infarction
HRCT	high-resolution CT	MIS-C	multisystem inflammatory syndrome in children
HRT	hormone replacement therapy	MMSE	mini mental state examination
HSV1	herpes simplex virus 1	MND	motor neurone disease
IBD	inflammatory bowel disease	MoCA	Montreal Cognitive Assessment
IBS	irritable bowel syndrome	MODY	maturity onset diabetes of the young
ICD	implantable cardioverter defibrillator	MPA	microscopic polyangiitis
		mPAP	mean pulmonary artery pressure
		MRCP	magnetic resonance cholangiopancreatography
		MRI	magnetic resonance imaging

MS	multiple sclerosis	PKD	polycystic kidney disease
MSM	men who have sex with men	PLS	primary lateral sclerosis
MSSA	methicillin-sensitive <i>Staphylococcus aureus</i>	PMA	progressive muscular atrophy
MTP	metatarsophalangeal	PMOS	polyendocrine metabolic ovary syndrome (previously PCOS)
MuSK	muscle-specific kinase		
NAAT	nucleic acid amplification test	PMR	polymyalgia rheumatica
NAFLD	nonalcoholic fatty liver disease	PP	primary/psychogenic polydipsia
NET	neuroendocrine tumour	PPI	proton pump inhibitors
NEWS2	National Early Warning Score 2	PPMS	primary progressive MS
NHS	National Health Service	PrEP	pre-exposure prophylaxis
NICE	National Institute for Health and Care Excellence	PRRT	peptide receptor radionuclide therapy
		PsA	psoriatic arthritis
NIV	non-invasive ventilation	PSP	primary spontaneous pneumothorax
NOGG	National Osteoporosis Guideline Group	PTH	parathyroid hormone
NPH	normal pressure hydrocephalus	PTSD	post-traumatic stress disorder
NSAID	non-steroidal anti-inflammatory drug	PVD	peripheral vascular disease
NSCLC	non-small-cell lung cancer	RA	rheumatoid arthritis
NSTEMI	non-ST elevation myocardial infarction	RAAS	renin–angiotensin–aldosterone system
NT-proBNP	N-terminal prohormone of brain natriuretic peptide	RCC	renal cell carcinoma
		RDTs	rapid diagnostic tests
NYHA	New York Heart Association [functional classification]	RF	rheumatoid factor
		RIF	right iliac fossa
OA	osteoarthritis	RNA	ribonucleic acid
Obs	observations	RRMS	relapsing–remitting MS
OCD	obsessive–compulsive disorder	RV	right ventricle/ventricular
OGTT	oral glucose tolerance test	SABA	short-acting beta ₂ agonist
OSA	obstructive sleep apnoea	SABR	stereotactic ablative radiotherapy
OSFED	other specified feeding or eating disorder	SACN	UK Scientific Advisory Committee on Nutrition
PAD	peripheral arterial disease		
PAH	pulmonary arterial hypertension	SAH	subarachnoid haemorrhage
PAN	polyarteritis nodosa	SAMA	short-acting muscarinic antagonist
PASI	Psoriasis Area and Severity Index	SBP	spontaneous bacterial peritonitis
PASP	pulmonary artery systolic pressure	SCLC	small-cell lung cancer
PCI	percutaneous coronary intervention	SGLT2	sodium/glucose cotransporter 2
PCI	prophylactic cranial irradiation	SIADH	syndrome of inappropriate antidiuretic hormone secretion
PCL-5	PTSD Checklist for DSM-5		
PCOS	polycystic ovary syndrome (now renamed as PMOS)	SLE	systemic lupus erythematosus
		SNS	sympathetic nervous system
PCR	polymerase chain reaction	SPMS	secondary progressive MS
PD-L1	programmed cell death ligand 1	SpO₂	peripheral oxygen saturation
PDSS	Panic Disorder Severity Scale	SSc	systemic sclerosis
PE	pulmonary embolism	SSP	secondary spontaneous pneumothorax
PEA	pulseless electrical activity	SSRI	selective serotonin reuptake inhibitor
PEP	positive expiratory pressure	STEMI	ST elevation myocardial infarction
PEP	post-exposure prophylaxis	SUDEP	sudden unexpected death in epilepsy
PERT	pancreatic enzyme replacement therapy	SVC	superior vena cava
PET	positron emission tomography	T3	triiodothyronine
PET-CT	positron emission tomography – computed tomography	T4	thyroxine
		TAVI/TAVR	transcatheter aortic valve implantation/ replacement
PFTs	pulmonary function tests		
PH	pulmonary hypertension	TB	tuberculosis
PHQ-9	Patient Healthcare Questionnaire 9 [depression severity]	TBI	traumatic brain injury
		TFTs	thyroid function tests
PIP	proximal interphalangeal	TGF-β	transforming growth factor-beta

TIA	transient ischaemic attack	UPPP	uvulopalatopharyngoplasty
TLC	total lung capacity	UTI	urinary tract infection
TNF	tumour necrosis factor	V/Q	ventilation–perfusion ratio
TOE	transoesophageal echocardiography	VADs	ventricular assist device
TPO	thyroid peroxidase antibodies	VAP	ventilator-associated pneumonia
TRAb	TSH receptor antibodies	VATS	video-assisted thoracoscopic surgery
TSH	thyroid-stimulating hormone	VBG	venous blood gas
TTE	transthoracic echocardiography	VF	ventricular fibrillation
tTG-IgA	tissue transglutaminase IgA	VP	ventriculoperitoneal
U&Es	urea and electrolytes	VSD	ventricular septal defect
U=U	undetectable viral load = untransmittable sexually	VT	ventricular tachycardia
UIP	usual interstitial pneumonia	VTE	venous thromboembolism
UKHSA	UK Health Security Agency	WCC	white cell count
ULT	urate-lowering therapy	WHO	World Health Organization
		Y-BOCS	Yale–Brown Obsessive Compulsive Scale

How to use this book

This book is designed to support nursing and healthcare students and qualified practitioners. It offers a rapid, systems-based overview of conditions, with practical nursing priorities and prompts. The design and content make it a fast reference and a practical revision resource helping you to link theory to assessment and management in real clinical settings.

Book structure

The book presents common clinical conditions as structured mind maps. The chapters are organized by body system (for example, cardiovascular or respiratory), and each condition is then broken down into short sections so that you can revise quickly and find information at a glance.

The presentation of each condition follows a similar pattern and layout for ease of use. Where relevant, key guidance on assessment and management is signposted (for example NICE or specialist society guidelines), and investigations often include prompts to help you interpret results. The sections covered for each condition are as follows.

Definition – a concise explanation of what the condition is.

Pathophysiology – what is happening in the body and how the condition affects normal function.

Risk factors – the characteristics that cause the disease or make it more likely to develop.

UK epidemiology – prevalence/incidence figures to contextualize the condition in UK practice.

Severity / complications – typical severity grading, red flags, potential deterioration, risks, and adverse outcomes to be aware of.

Clinical features – key signs and symptoms (including red flags) to recognize during assessment.

Investigations – the tests, observations, and assessments used to support diagnosis.

Management – the main immediate actions and longer-term treatment, including medicines, procedures, lifestyle advice, and when to escalate (with guideline signposting where appropriate).

Prognosis – the factors on which outcomes depend.

Information specific to different groups – for example where children may present differently from adults, or concerns about higher-risk groups.

Nursing care – nursing priorities such as assessment, monitoring, symptom control, patient education, triggers for escalation, safety-netting, and psychosocial support.

Impact on lifestyle – the practical implications for day-to-day living, rehabilitation and self-management.

You will find a list of abbreviations at the start of the book, but be aware that abbreviations, and other terminology, may vary across organizations and locations.

Using mind maps actively

Use the mind maps to build quick recall (for example, definitions and key symptoms) and to strengthen

clinical reasoning (linking pathophysiology to investigations and management). You can cover sections and test your knowledge, annotate links between symptoms / investigations / management, and revisit maps after placement experience.

Before reading over each map, try answering the following reflection prompts:

“What would I assess first?”

“What would make me escalate?”

“What patient education would be important?”

Adapt the maps to your own learning style, for example, using colour coding, symbols, and notes. You will notice blank spaces around each mind map. These are intended for you to add:

- your own notes
- clinical examples
- placement reflections
- prompts from mentors or supervisors
- additional learning points
- local policy reminders or guideline updates from teaching sessions or placements.

Safe practice

Each mind map supports safer practice by helping you to recognize complications and escalation triggers. To ensure that you always work safely and responsibly,

you should also check current NICE guidance, specialist society guidance, local policies, and the *BNF/BNFC* where relevant.

- The book is designed to assist you in your learning and practice but does not replace local policy, clinical judgement, supervision, or current national guidance, so bear these in mind in your work.
- Remain within your scope of practice.
- If you encounter an escalation trigger or have another concern, act promptly.
- Check indications, contraindications, allergies, interactions, monitoring requirements, and local medicines guidance.

Patient-centred and holistic care

The nursing sections of each mind map will help you to think about each individual patient's needs. Aspects of care to consider for each patient are:

- clear communication
- dignity
- consent
- shared decision-making
- cultural sensitivity
- mental health impact
- family/carer involvement
- health inequalities.

Chapter 1**Cardiovascular**

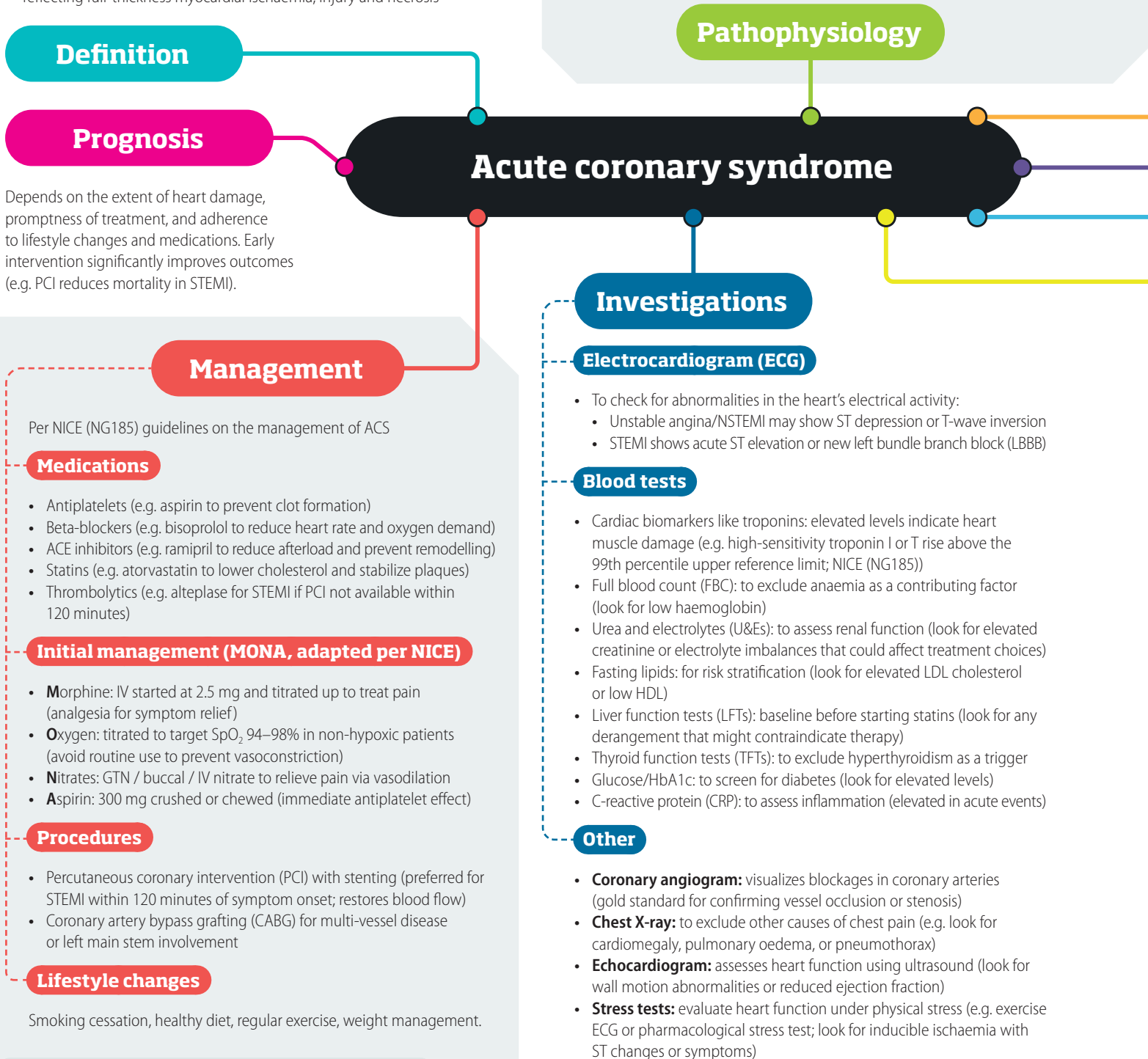
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Acute pericarditis	4
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Acute coronary syndrome (ACS) refers to a range of conditions associated with sudden reduced blood flow to the heart:

- **Stable angina:** predictable chest pain triggered by physical exertion or emotional stress, typically lasting less than 10 minutes and relieved by rest or glyceryl trinitrate (GTN)
- **Unstable angina:** myocardial ischaemia presenting with symptoms but without permanent damage, often showing ischaemic ECG changes (e.g. ST depression) yet no troponin elevation; reversible with nitrates
- **Non-ST elevation myocardial infarction (NSTEMI):** similar to unstable angina but with myocardial injury, evidenced by elevated troponin levels, though damage does not span the full thickness of the heart muscle
- **ST elevation myocardial infarction (STEMI):** marked by ST elevation on ECG, indicating complete coronary artery occlusion, with troponin rise reflecting full-thickness myocardial ischaemia, injury and necrosis

ACS typically results from the rupture of an atherosclerotic plaque in a coronary artery, leading to a blood clot that partially or completely blocks blood flow to the heart muscle. This blockage causes ischaemia and can lead to myocardial infarction if not promptly treated.

- **NSTEMI:** smaller vessel infarcts or myocardial ischaemia causing tissue necrosis, not extending through all layers of the myocardium
- **STEMI:** atherosclerosis and thrombus formation occluding a coronary artery, causing myocardial ischaemia, injury and necrosis through all layers of the myocardium
- **Stable angina:** narrowing of coronary arteries due to atherosclerotic plaques, causing symptoms during increased oxygen demand
- **Unstable angina:** complicated atherosclerotic plaques with potential to progress to MI, reversible with nitrates



Acute pericarditis is inflammation of the pericardium, causing sharp chest pain due to irritated layers rubbing against each other.

Causes of inflammation:

- **Common:** viral infections (coxsackieviruses, influenza, HIV)
- **Uncommon:** bacterial infections, uraemic pericarditis, MI, post-surgery, trauma, inflammatory diseases, radiotherapy, cancers

The inflamed pericardium can lead to fluid accumulation (pericardial effusion), which can compress the heart and impair its function.

- **Acute pericarditis:** sudden onset, resolves within 3 weeks; may recur after 4–6 weeks
- **Incessant pericarditis:** lasts 4–6 weeks (<3 months) with continuous symptoms
- **Chronic constrictive pericarditis:** develops slowly, lasts >3 months

- Infections: viral (coxsackievirus), bacterial (tuberculosis), fungal
- Autoimmune diseases: lupus, rheumatoid arthritis
- Heart conditions: recent MI, heart surgery
- Other: trauma, radiation, medications
- Demographics: male, age 20–50

Definition

Pathophysiology

Risk factors

Prognosis

Most recover fully with treatment; some experience recurrence or chronic issues (recurrence rate 15–30% without colchicine).

Acute pericarditis

Management

Based on ESC guidelines (NICE aligns with best practice)

Medications

- **Analgesia:** for pain control (e.g. ibuprofen 600 mg three times daily)
- **NSAIDs:** reduce inflammation, fever, pain (e.g. high-dose ibuprofen, tapered over 1–2 weeks)
- **Colchicine:** prevents recurrence, shortens symptoms by reducing neutrophil activity (0.5 mg twice daily for 3 months in acute cases)
- **Corticosteroids:** for refractory cases (e.g. prednisone 0.2–0.5 mg/kg/day), used cautiously due to recurrence risk
- **Antibiotics:** for bacterial infection (e.g. vancomycin for suspected staphylococcal infection)

Procedures

- Pericardiocentesis (needle drainage of excess fluid to relieve tamponade) or pericardiectomy (surgical removal of the pericardium in severe or constrictive cases)

Investigations

- **ECG:** shows widespread 'saddle-shaped' ST elevation and PR depression (see Fig. 1)
- **Echocardiogram:** detects pericardial effusion (large effusion assessed by echo, e.g. >20 mm separation)
- **Chest X-ray:** may show enlarged cardiac silhouette with significant effusion (look for 'water bottle' sign in large effusions)
- **Blood tests:** check for elevated inflammatory markers (CRP, ESR to confirm inflammation) and cardiac enzymes (troponin to rule out myocardial involvement)

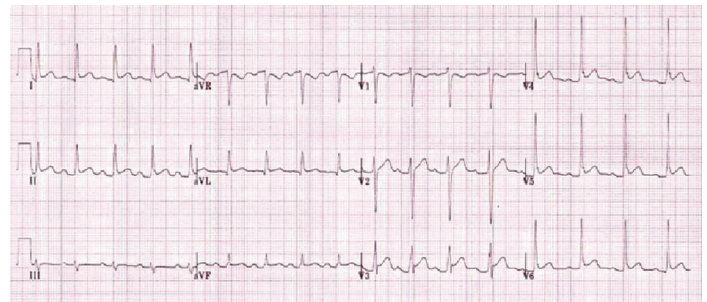


Fig. 1 ECG showing widespread saddle-shaped ST elevation in a patient with acute pericarditis

- ## Clinical features

UK epidemiology

Severity / complications

- **Severity:** mild cases resolve on their own, but severe require hospitalization
- **Complications:** cardiac tamponade (life-threatening compression), chronic constrictive pericarditis

Patients may need to avoid strenuous activities, manage stress, and follow a heart-healthy diet; regular follow-ups are essential

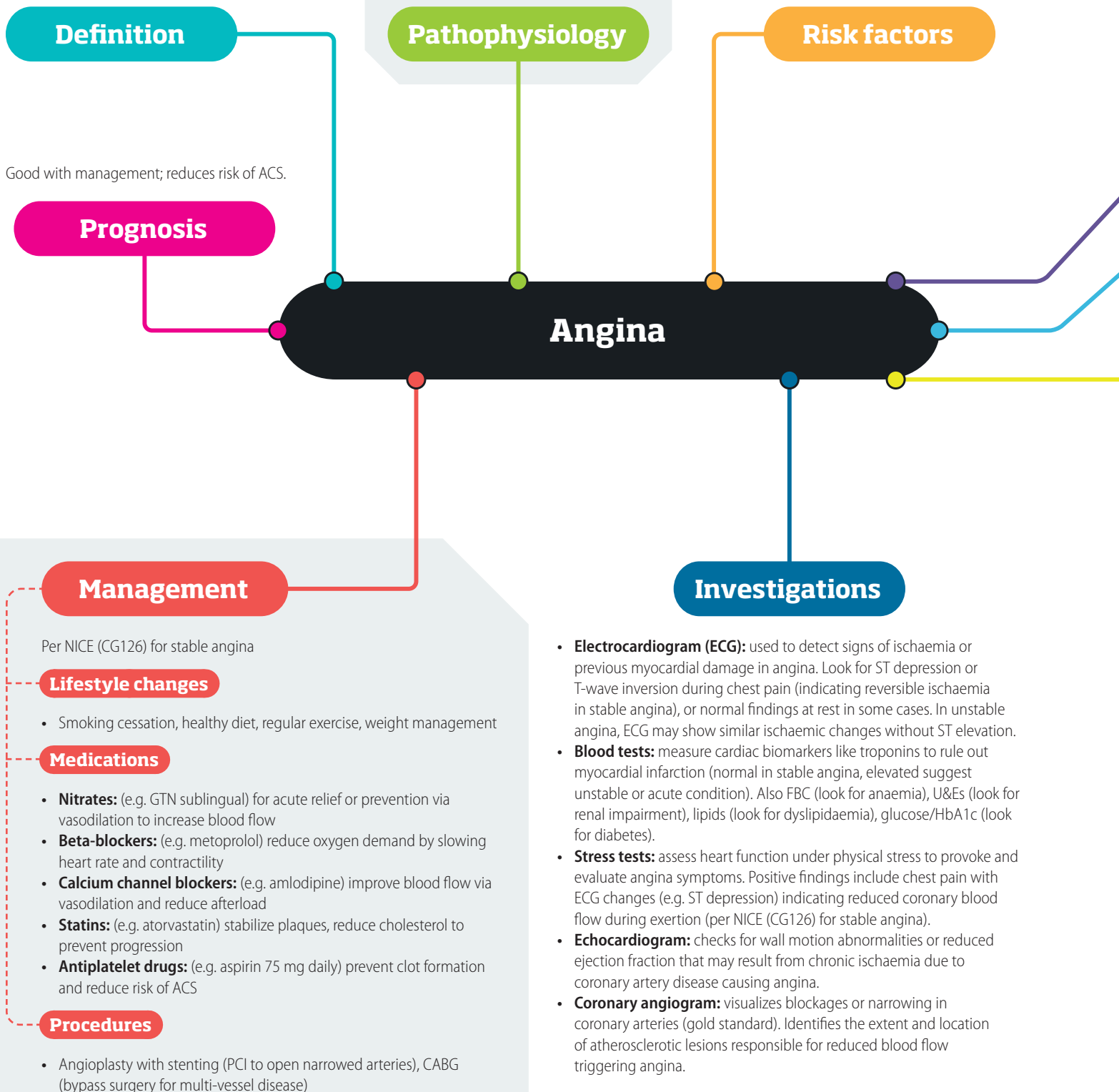
Notes

Acute pericarditis

Angina is chest pain from reduced blood flow to the heart muscle, often due to coronary artery disease, feeling like squeezing, pressure or tightness.

Angina occurs when the heart muscle lacks oxygen-rich blood due to narrowed or blocked coronary arteries from atherosclerosis, leading to ischaemia.

- **Modifiable:** smoking, high blood pressure, high cholesterol, diabetes, obesity, physical inactivity, unhealthy diet, excessive alcohol
- **Non-modifiable:** age, gender (higher in men), family history, previous heart conditions



- ## Clinical features

UK epidemiology

- ### Severity / complications

- **Children:** rare, linked to congenital defects or Kawasaki disease
- **Adults:** common in adults with risk factors like smoking or hypertension

Nursing care

- Assess and document the frequency, duration and triggers of angina episodes to guide treatment adjustments
- Ensure rapid administration of nitrates (e.g. sublingual GTN) during acute episodes, monitoring for pain relief and side-effects like hypotension
- Educate patients on recognizing worsening symptoms (e.g. increased frequency or intensity) that may signal unstable angina, requiring urgent medical attention
- Support adherence to antiplatelet therapy (e.g. aspirin) by explaining its role in preventing clot formation specific to coronary artery disease

Impact on lifestyle

Requires trigger avoidance, medication adherence, and cardiac rehab

Notes

Angina

An abdominal aortic aneurysm (AAA) is an enlargement in the lower aorta due to wall weakening, risking rupture (a life-threatening problem). General aortic aneurysms include thoracic types, but AAA is the most common and screened form.

Results from aortic wall degradation, often a result of atherosclerosis, leading to dilatation (abdominal aorta is normally about 2 cm in diameter, large AAAs can be >5.5 cm). Involves inflammation, matrix metalloproteinase activity, and genetic factors.

- **Modifiable:** smoking (increases risk 4-fold), high blood pressure, high cholesterol, obesity, inactivity
- **Non-modifiable:** age (>65), male gender (4–6 times higher risk), family history, genetic factors

Definition

Pathophysiology

Risk factors

Early management improves outcomes; ruptured aneurysms have approximately 20% survival rate to discharge.

Prognosis

Abdominal aortic aneurysm

Management

Per NICE (NG156) on AAA diagnosis and management

Monitoring

- Regular imaging for small aneurysms (3–5.4 cm; ultrasound every 3–12 months based on size)

Medications

- ACE inhibitors (e.g. lisinopril, enalapril) to reduce high blood pressure and limit aneurysm progression by lowering wall stress
- Statins (e.g. atorvastatin, rosuvastatin) to lower cholesterol and stabilize atherosclerotic plaques, reducing the chance of AAA increasing in size
- Antiplatelets (e.g. aspirin) if co-existing CVD

Surgery

- Open repair (traditional incision to replace dilated section with graft, for fit patients)
- Endovascular aneurysm repair (EVAR; minimally invasive stent-graft via groin, preferred for most unless anatomy unsuitable)

Investigations

Per NICE (NG156) on AAA diagnosis and management

- **Abdominal ultrasound:** diagnoses AAA (and a key feature of the NHS AAA screening programme for men over 65; look for aortic diameter >3 cm to confirm, >5.5 cm for intervention consideration)
- **CT scan:** assesses size/extent, anatomy for surgical planning (look for diameter, shape, involvement of branches)
- **MRI:** detailed imaging for complex cases (look for wall thickness, thrombus)
- **Echocardiogram:** if thoracic involvement suspected (look for proximal extension)

Clinical features

UK epidemiology

Prevalence ~1.4% in men over 65; NHS AAA screening programme for men aged 65 reduces rupture incidence by identifying early.

Severity / complications

Information specific to different groups

- **Children:** rare, linked to congenital conditions like Marfan or Ehlers–Danlos syndrome
- **Adults:** common in older adults with smoking, hypertension, atherosclerosis

Nursing care

- Monitor vital signs and symptoms for rupture (e.g. sudden hypotension, severe pain)
- Educate on lifestyle and treatment adherence (e.g. smoking cessation critical as it doubles growth rate)
- Check for pulsating mass in the abdomen (by palpation), abdominal or lower back pain, check BP (to establish if a rupture has occurred), leg pulses to assess perfusion
- Strict BP control if high (e.g. using oral or IV medications like labetalol or nitroprusside to target $<140/90$ mmHg)

Impact on lifestyle

- Patients need to make lifestyle changes such as quitting smoking, adopting a healthy diet, and engaging in regular physical activity to lower the risk of developing an AAA or prevent an existing one from growing
- The ultimate goal of treatment is to limit AAA progression by modifying risk factors: controlling blood pressure, discontinuing smoking, and lowering lipid levels; regular medical follow-ups are essential
- Around 80% of people with a rupture die before reaching the hospital or surviving emergency surgery, underscoring the importance of the NHS AAA screening programme.

Notes

Abdominal aortic aneurysm