

# Foundations of Continuing Care & Chronic Disease

## What is a Chronic Condition?

Chronic conditions—also known as chronic diseases or long-term illnesses—are health issues that last for extended periods, usually longer than six months. Unlike acute conditions, which appear suddenly and resolve quickly, chronic conditions progress slowly and require ongoing care and management.

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## Key Characteristics

Chronic conditions typically involve:

- Long duration (6+ months)
- Slow progression or recurrence
- Complex causes (social, behavioural, environmental, genetic)
- Functional impairment or disability
- Need for sustained medical and self-management

In Australia, the **Australian Institute of Health and Welfare (AIHW)** defines chronic conditions as long-lasting, persistent, and often associated with gradual health decline. Common examples include:

Cardiovascular disease;

Diabetes; Cancer;

Chronic respiratory diseases (e.g. COPD, asthma);

Mental health conditions;

Musculoskeletal conditions (e.g. back pain, arthritis) all of which we will cover in this subject.

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## Why It Matters in Australia

Chronic conditions continue to have a considerable impact - 91% of the non-fatal burden of disease is related to them. - AIHW, 2024

Chronic conditions are the leading cause of illness, disability, and death in Australia. They place a significant burden on individuals, families, and the healthcare system.

In 2023, the top five causes of disease burden were all chronic:

1. Coronary heart disease
  2. Dementia
  3. Back pain and problems
  4. Anxiety disorders
  5. COPD
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### Nursing Implications

As a nurse in continuing care, you'll work closely with people managing one or more chronic conditions. This requires:

- Understanding disease trajectories and symptom control
  - Managing co-morbidities and medication complexity
  - Coordinating care across services
  - Providing education and culturally safe, person-centred support
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### Autoimmune Conditions Overview

Autoimmune diseases occur when the immune system mistakenly attacks the body's own tissues, leading to chronic inflammation, organ damage, and long-term health issues. These conditions are typically lifelong, requiring continuous care, symptom monitoring, and interdisciplinary management—making them highly relevant to nursing practice in continuing and chronic care.

There are over 80 known autoimmune conditions, including:

- **Organ-specific** (e.g. autoimmune thyroiditis, Type 1 diabetes)
- **Systemic** (e.g. rheumatoid arthritis [RA], multiple sclerosis [MS])

While the exact causes are unclear, risk factors include genetics, environmental triggers (e.g. infections, toxins), hormonal influences, and immune system dysregulation.

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## Prevalence & Impact in Australia

In Australia, autoimmune diseases are a significant and growing public health concern, collectively affecting approximately **5% of the population** (AIHW, 2023). In this module, we will explore three common autoimmune diseases in more detail:

- **Rheumatoid arthritis (RA)**, which affects almost **500,000 Australians** and is a leading cause of disability;
- **Multiple sclerosis (MS)**, which affects more than **33,000 Australians**, with onset typically between the ages of 20 and 40; and
- **Autoimmune thyroid diseases**, such as **Hashimoto's thyroiditis**, which are particularly prevalent among women and older adults.

These conditions are chronic and often require **long-term multidisciplinary management**, including pharmacological treatment, symptom monitoring, patient education, and lifestyle support. Nurses play a crucial role in coordinating this care, particularly in community and primary health settings where early identification of flare-ups, adherence to treatment, and health promotion are essential.

Note: While Type 1 Diabetes Mellitus, another common autoimmune condition, is highly prevalent in Australia and shares similar care principles,

## Rheumatoid Arthritis (RA)

### Overview: What is Rheumatoid Arthritis?

Rheumatoid arthritis (RA) is a **chronic autoimmune disease** that primarily affects **synovial joints**, leading to pain, swelling, stiffness, and progressive joint destruction.

As a lifelong, systemic condition, RA requires **multidisciplinary, long-term management**. For nurses in chronic and continuing care, understanding both the pathophysiology and implications for daily life is crucial to delivering high-quality care.

## Physiology & Pathophysiology

### Normal Physiology of Synovial Joints:

- Synovial joints allow smooth, pain-free movement.
- They are lined by a **synovial membrane**, which produces fluid to reduce friction and nourish cartilage.
- Surrounding structures include cartilage, ligaments, and joint capsules.

### 🔥 What Happens in RA?

- RA is an **autoimmune disorder**, where the immune system **mistakenly attacks the synovial membrane triggering a chronic inflammatory response** involving T cells, B cells, macrophages, and pro-inflammatory cytokines, leading to joint damage.
- This leads to **chronic inflammation** causing:
  - **Synovial hypertrophy** (thickening & swelling of joint)
  - **Cartilage & bone erosion/loss**
  - **Muscle wasting**
  - **Joint deformity and functional loss**
- RA may also cause **systemic symptoms** including fatigue, low-grade fever, anaemia, and inflammation in organs such as the lungs, eyes, and blood vessels.

**Key concept:** The inflammation is not due to wear-and-tear (like in osteoarthritis), but from immune dysfunction.

### Clinical Features of RA

| Characteristic        | Details                                                              |
|-----------------------|----------------------------------------------------------------------|
| Onset                 | Gradual, often in middle adulthood                                   |
| Joint involvement     | Symmetrical, typically small joints (hands, wrists, feet)            |
| Symptoms              | Morning stiffness >30 min, joint swelling, painful to touch, fatigue |
| Extra-articular signs | Fever, anaemia, weight loss, eye inflammation                        |
| Course                | Relapsing-remitting or progressive                                   |

## RA Management

Exercise is important in the management of RA as well as the following 3 classes of drugs.

| Drug Class      | Examples                         | Nursing Considerations                         |
|-----------------|----------------------------------|------------------------------------------------|
| DMARDs          | Methotrexate, hydroxychloroquine | Monitor liver function, infection risk         |
| Corticosteroids | Prednisolone                     | Monitor blood glucose, infection, mood changes |
| NSAIDs          | Ibuprofen, celecoxib             | GI protection, renal function                  |

## Thyroid Disorders

### Overview

Thyroid disorders are **common, lifelong conditions** that affect metabolic processes, cardiovascular function, mental health, and more. As a nurse working in continuing care, you will likely care for patients with thyroid disorders across many settings particularly in older adults and women. We will explore **hypothyroidism** and **hyperthyroidism** in this subject. Thyroid disorders generally occur when the thyroid gland produces too much (**hyperthyroidism**) or too little thyroid (**hypothyroidism**) hormones.

| Feature         | Hypothyroidism (Underactive Thyroid)                                       | Hyperthyroidism (Overactive Thyroid)                                     |
|-----------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------|
| Definition      | A condition where the thyroid gland produces too little hormone.           | A condition where the thyroid gland produces too much hormone.           |
| Common Causes   | Most commonly due to Hashimoto's thyroiditis (autoimmune).                 | Commonly due to Graves' disease (autoimmune) or thyroid nodules.         |
| Common Symptoms | Fatigue, weight gain, cold intolerance, depression, dry skin, bradycardia. | Weight loss, heat intolerance, anxiety, palpitations, tremor, diarrhoea. |

| Feature                       | Hypothyroidism (Underactive Thyroid)                                                                                                                                                                                                                                                                      | Hyperthyroidism (Overactive Thyroid)                                                                                                                                                                                                                                                                |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Long-Term Care Considerations | <ul style="list-style-type: none"> <li>• Lifelong thyroid hormone replacement (e.g., levothyroxine)</li> <li>• Regular blood tests to monitor TSH and T4</li> <li>• Monitor for cardiovascular complications, especially in older adults</li> <li>• Address fatigue and mental health concerns</li> </ul> | <ul style="list-style-type: none"> <li>• Medication (e.g., carbimazole [Neo-Mercazole])</li> <li>• Symptom control (beta-blockers)</li> <li>• Watch for atrial fibrillation and bone density loss</li> <li>• Post-treatment hypothyroidism is common after radioactive iodine or surgery</li> </ul> |

## Multiple Sclerosis (MS)

Multiple sclerosis (MS) is a chronic, autoimmune disorder of the central nervous system (CNS) characterised by inflammation, demyelination, and neurodegeneration. It commonly affects young adults and leads to a wide range of neurological symptoms and disability over time.

## Pathophysiology

Multiple sclerosis (MS) is a chronic, immune-mediated disorder that affects the **central nervous system (CNS)** including the **brain, spinal cord, and optic nerves**. In MS, the immune system mistakenly attacks **myelin**, the protective sheath that insulates nerve fibres. This results in **inflammation, demyelination**, and eventually **axonal damage**.

- **Lesions** (also called plaques) are areas of myelin damage and scarring found in the CNS.
- These lesions disrupt the normal **conduction of electrical impulses** along nerve pathways.
- Over time, repeated immune attacks may result in **irreversible neurodegeneration** and brain atrophy.

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The exact cause of MS remains unknown, but contributing factors include genetic susceptibility, low vitamin D levels, Epstein-Barr virus exposure, and environmental influences

### Clinical Features of Multiple Sclerosis

MS symptoms vary widely between individuals, depending on the **location and extent of CNS lesions**. Early signs may be subtle and intermittent.

Common clinical features include:

- **Visual disturbances** (e.g., blurred or double vision, optic neuritis)
- **Muscle weakness** or spasticity
- **Fatigue** (often profound and unrelated to activity)
- **Sensory changes** (numbness, tingling, or pain)
- **Balance and coordination issues**
- **Bladder and bowel dysfunction**
- **Cognitive changes** (e.g. memory lapses, slowed processing)
- **Mood changes** such as depression or anxiety

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MS may follow different disease courses, including **relapsing-remitting**, **secondary progressive**, or **primary progressive** patterns.

### Living with MS

Living with Multiple Sclerosis (MS) can present challenges, but there is growing evidence that **positive lifestyle choices** can play a powerful role in improving symptom management, reducing relapses, and enhancing quality of life. MS Australia has developed an in-depth guide for health professionals and people with MS that explores practical, evidence-based strategies to support health and wellbeing.

#### Summary of Key Lifestyle Strategies for MS:

- **Stop smoking:** Strongest lifestyle intervention—linked with reduced progression and fewer symptoms.
- **Healthy eating:** Follow the Australian Dietary Guidelines; there's no single "MS diet."
- **Maintain a healthy weight:** Obesity is linked to worse outcomes; healthy weight supports mobility and cognition.

- **Exercise regularly:** Safe and highly beneficial—improves fatigue, mobility, balance, and mood.
- **Get good sleep:** Sleep hygiene and support for sleep disorders help reduce fatigue and mental fog.
- **Manage stress:** Mindfulness, therapy, and physical activity reduce symptom severity and improve quality of life.
- **Vitamin D & Sunlight:** Important for immune health—safe sun exposure and supplements when deficient.
- **Gut health:** A diverse diet with fibre-rich foods may support immune balance via the microbiome.

This guide empowers people with MS to take control of their health—with the support of their healthcare team—through informed, achievable changes.

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## Principles for Safe Medication Administration

NSW Health policy adopts the principles of safe and accurate medication administration using the 5 Rights (also known as the '5 R's'):

- ✓ The Right Patient
- ✓ The Right Drug
- ✓ The Right Dose
- ✓ The Right Time
- ✓ The Right Route

### Expanding to the 10 Rights of Medication Administration

In practice, additional "Rights" are often considered to support best practice. According to *Kozier & Erb's Fundamentals of Nursing* (2020), these expand the list to **10 Rights**, which also include:

- ✓ The Right Documentation
- ✓ The Right Education
- ✓ The Right Assessment
- ✓ The Right Evaluation
- ✓ The Right to Refuse

| Check                                                     | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>First Check -<br/>Selecting<br/>the<br/>Medication</b> | <ul style="list-style-type: none"> <li>• Access the <b>medication chart</b> and identify the medication order.</li> <li>• Go to the <b>drug cupboard</b> and remove the correct medication.</li> <li>• Check the following against the medication chart: <ul style="list-style-type: none"> <li>◦ ✓Right Drug (correct name)</li> <li>◦ ✓Right Dose (strength and quantity)</li> <li>◦ ✓Right Route (e.g. oral, IV, subcutaneous)</li> <li>◦ ✓Right Time (check the drug has not been given)</li> </ul> </li> <li>• Check the <b>expiry date</b> on the medication label.</li> <li>• Perform any <b>dose calculations</b> as needed.</li> </ul>         |
| <b>Second Check -<br/>Preparing the<br/>Medication</b>    | <ul style="list-style-type: none"> <li>• After preparing the medication (e.g. pouring, drawing up, placing into a cup or syringe):</li> <li>• Re-check the following on the label: <ul style="list-style-type: none"> <li>◦ ✓Drug</li> <li>◦ ✓Dose</li> <li>◦ ✓Route</li> <li>◦ ✓Expiry Date</li> </ul> </li> <li>• Ensure it still matches the <b>medication chart</b>.</li> <li>• Double-check any <b>complex calculations</b> if required.</li> </ul>                                                                                                                                                                                                |
| <b>Third Check - Before<br/>Administration</b>            | <ul style="list-style-type: none"> <li>• At the bedside, just before administering the medication:</li> <li>• Re-check the medication label against the <b>medication chart</b>.</li> <li>• Re-check allergy status</li> <li>• Confirm the <b>Right Person</b> using <b>three identifiers</b>: <ul style="list-style-type: none"> <li>◦ ✓Full Name</li> <li>◦ ✓Date of Birth (DOB)</li> <li>◦ ✓Medical Record Number (MRN)</li> </ul> </li> <li>• Verify the following again: <ul style="list-style-type: none"> <li>◦ ✓Right Drug</li> <li>◦ ✓Right Dose</li> <li>◦ ✓Right Route</li> <li>◦ ✓Right Time</li> <li>◦ ✓Expiry Date</li> </ul> </li> </ul> |

## Pain Assessment

Pain is a common reason for seeking healthcare and is considered the fifth vital sign. For nurses, accurate pain assessment is essential for effective pain management, clinical decision-making, and improving patient outcomes. Inadequate pain assessment can lead to under-treatment, distress, and complications such as delayed healing and functional decline.

### Understanding Pain

Pain is a subjective experience and is defined by the International Association for the Study of Pain (IASP) as “an unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage” (IASP, 2021). Because of its subjective nature, the patient’s self-report is the most reliable indicator of pain.

### Principles of Pain Assessment

1. **Use a systematic approach:** Pain assessment should be consistent, regular, and integrated into routine care.
2. **Respect patient self-report:** Always believe the patient’s report of pain, even in the absence of observable signs.
3. **Use appropriate tools:** Select tools that suit the patient’s age, cognitive status, language, and cultural background.
4. **Reassess regularly:** Evaluate pain after interventions to determine the effectiveness of treatment.

### Pain Assessment Tools

Several validated tools are available for use in clinical practice. Commonly used tools include:

- **Numeric Rating Scale (NRS):** Patients rate pain from 0 (no pain) to 10 (worst possible pain). Suitable for adults and older children.
- **Visual Analogue Scale (VAS):** A 10 cm line on which the patient marks their pain intensity.
- **Faces Pain Scale - Revised (FPS-R):** Useful for children or patients with communication difficulties. Patients select a face that best represents their pain.

**Abbey Pain Scale:** Designed for use in patients with dementia who may not be able to verbalise pain. Observes indicators like facial expression, vocalisation, and body language.

The Australian Pain Society (2020) recommends choosing a tool based on the individual's needs and context, especially in populations such as paediatrics, older people, and those with cognitive impairments.

### **The PQRST Framework**

Nurses often use the PQRST mnemonic to guide a comprehensive pain history:

- P - Provocation/Palliation: What causes or relieves the pain?
- Q - Quality: What does the pain feel like (e.g., sharp, burning, dull)?
- R - Region/Radiation: Where is the pain and does it spread?
- S - Severity: How intense is the pain (use NRS or VAS)?
- T - Timing: When did the pain start? Is it constant or intermittent?

### **Cultural Considerations**

Cultural background influences how individuals express and manage pain. For example, some Aboriginal and Torres Strait Islander peoples may underreport pain or use nonverbal cues. Nurses must use culturally sensitive approaches, listen actively, and consider involving Aboriginal Liaison Officers when appropriate (Department of Health, 2021).

### **Documentation and Communication**

Pain assessment findings should be clearly documented in the patient's record and communicated to the healthcare team. Include:

- Pain score
- Description and location
- Associated symptoms
- Impact on function
- Interventions given and response

### **Clinical Judgment and Critical Thinking**

Nurses should not rely solely on scores. Clinical judgment is essential, especially when assessing non-verbal patients or those with complex needs. Observe for physiological (e.g. tachycardia) and behavioural (e.g. restlessness, guarding) indicators of pain.

### **Complex Wound Care**

Involves managing wounds that are surgical, deep, chronic, or at higher risk of infection. These procedures require precision, preparation, and adherence to best practice to promote healing and reduce the risk of complications.

## Clinical Standards and Safety

Registered Nurses must follow clinical guidelines outlined by NSW Health and the NSQHS Standard 3. The use of **Aseptic Non Touch Technique (ANTT)** is essential to prevent infection during wound care procedures.

### Principles for Safe Complex Wound Care

- Perform hand hygiene before, during, and after the procedure.
  - Use ANTT to protect key parts and key sites.
  - Maintain a clean, organised sterile field and wear appropriate PPE.
  - Choose dressing materials appropriate to the wound's type and healing stage.
  - Document the procedure, wound appearance, and dressing changes accurately.
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### Aseptic Non Touch Technique (ANTT)

ANTT is a standardised approach to aseptic practice. It protects key parts (e.g. sterile dressing) and key sites (e.g. wounds) by using a non-touch technique. Two levels include:

- **Standard ANTT** - for simple procedures with low infection risk.
- **Surgical ANTT** - for more invasive or high-risk procedures.