Understanding multiple sclerosis

Multiple sclerosis generally starts in early adult life and affects more women than men. National Institute of Health and Clinical Excellence (NICE) (2003) estimates that ‘between three and seven people per 100,000 population are diagnosed with MS each year’. The Multiple Sclerosis Society (2005) describes it as ‘The most common neurological disorder among young adults, and affects around 2.5 million people in the world, and 85,000 people in the UK. Every week around 50 people in the UK are diagnosed with MS. Diagnosis is usually between 20 and 40 years of age – rarely under 12 or over 55 years of age.’

Cause of MS

Although the exact cause of MS is unknown several theories have arisen to explain why it occurs:
- Autoimmunity – the body’s natural defences are actually attacking its own myelin
- Pathogen mediated – triggered by bacteria, virus, fungi or other microbes
- Genetic components – evidence demonstrates a genetic link.

MS therefore may result from an abnormal response to an infection or an environmental factor. Despite the lack of certainty regarding causation, much is known as to how the illness affects the body and treatment is aimed at reducing these symptoms.

Effects of MS

MS attacks myelin, a protective sheath surrounding the nerve fibres within the central nervous system. Scars called ‘lesions’ or ‘plaques’ can develop in the myelin often causing damage to the actual nerve fibres. When myelin is damaged (de-myelination) the conductivity rate of the nerves slows down leading to an accumulation of disability over time. This can result in interference with messages between the brain and other parts of the body causing distortion of messages, short-circuiting of nerve impulses or no impulse being transmitted down the nerve fibre at all.

As the central nervous system links all bodily activities, many different types of symptoms can appear in MS depending upon which part of the central nervous system is affected and the ‘role’ of the damaged nerve. The most common symptoms and problems are:
- Numbness or tingling in the hands or feet
- Slowness of movement, loss of muscle strength and co-ordination with resultant restriction in range of movement
- Stiffness and spasm in some muscle groups, particularly the legs
- Balance (in-co-ordination) and walking difficulties
- Slurring of speech and problems articulating words
- Difficulty swallowing and eating
- Bladder problems including incontinence, pain, constipation or incontinence
- Bowel problems including urgency, difficulty, pain, constipation or incontinence
- Visual problems such as double vision (diplopia), blurred vision (as a result of optic neuritis) and temporary loss of vision in one or both eyes
- Dizziness
- Pain may occur as a result of specific nerve tract involvement causing problems in a specific area or maybe the result of muscle spasticity
- Changes in cognitive function e.g. loss of memory, poor concentration and slowness of thinking
- Anxiety, depression and mood swings
- Lack of libido, erectile and other sexual problems
- Fatigue when attempting physical or mental forms of activity. This frequently causes difficulty or distress and can easily be mistaken for depression.

The symptoms of MS are diverse and ‘No two people get MS in exactly the same way and the expression of each individual’s disease is as unique as their fingerprints’ (Jones, 2001). MS can start insidiously with a slight visual loss and some loss of function in one limb or can cause severe functional loss depending on the area(s) affected.

Progression of MS

The NICE (2003) guidelines on MS described three different patterns of progression.

1. Relapsing/remitting MS – symptoms come and go. Periods of good health or remission are followed by sudden symptoms or relapses (80% of people at onset of MS have this type of progression)
2. Secondary progressive MS – follows on from relapsing/remitting MS. There are gradually more or worsening symptoms with fewer remissions (about 50% of those with relapsing/remitting MS develop secondary progressive MS during the first 10 years of their illness)
3. Primary progressive MS – symptoms gradually develop and worsen over time (10–15% of people at onset).

As mentioned earlier, MS effects each individual in a unique way, for Jones (2001) ‘MS

Julie Swann outlines the impact of multiple sclerosis and offers some practical advice on how to reduce the adverse effects of this progressive disease.

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feeding problems that may occur as a result of the variation in progression of MS and the diversity of symptoms and problems that may arise after an exacerbation of the disease, in which ‘Predicting multiple sclerosis is like forecasting the British weather.’ (Jones, 2001). MS can progress in a number of ways and life expectancy after the onset of MS is indicated in Box 1 (McFox. 2002–04).

**Treatment**

There are two types of medication used to treat MS. The first type treats the symptoms of MS (Table 1).

The second method treats the underlying disease to reduce the number of flare-ups and slow the progression of physical disability e.g. disease-modifying therapies such as injections with beta-interferon. Interferons are a family of proteins naturally produced in the body that play a role in controlling the immune system and may reduce the frequency of relapses and delay the course of the disease. A side effect of beta-interferon treatment (Avonex, Rebif and Betaseron) can be flu-like symptoms, however, non-steroidal anti-inflammatory drugs e.g. Ibuprofen can reduce this side effect.

In some cases, infection may trigger a relapse, therefore people with MS should be offered immunization against influenza (NICE, 2003). Linoleic acid, 17–23 grams a day, may reduce the progression of disability and sources include sunflower, corn, soya and safflower oils (NICE, 2003). Treatment including stem cell transplants is still evolving.

**Swallowing and speech problems**

People suffering from MS may enter a care environment with severe physical problems and swallowing difficulties (dysphagia). The Multiple Sclerosis Society (2004) estimates that around 50% of people with MS experience swallowing difficulties, although some experts report a higher figure. Furthermore the Multiple Sclerosis Society (2004) stress the importance of awareness of associated feeding problems that may occur as a result of MS. Problems may include difficulty chewing, food sticking in the throat, sluggish movement and/or difficulty moving food back through the mouth, coughing and spluttering during and after eating and excessive saliva causing dribbling. These can all lead to anxiety for the MS sufferer.

Swallowing and speech functions are closely interlinked. The Multiple Sclerosis Society (2004) notes the dangers of leaving swallowing disorders untreated, resulting in malnutrition, dehydration or even anorexia. Aspiration (when liquid or food from the throat goes down the wrong tube and ends up in the lungs) can be subtle and repeated chest infections may require further investigation. Aspiration can lead to infection and aspiration pneumonia.

**Assisting with feeding problems**

If swallowing problems occur the type of food given should be easily broken up in the mouth. Enteral feeding should be considered i.e. using the gastrointestinal tract for the delivery of nutrients. Swann (2005) provides practical ideas of how care staff can help residents with feeding problems including chewing or swallowing foods. It may be necessary to give high calorie snacks and nutritional drinks between meals (Swann, 2005).

**Table 1.**

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Treatment</th>
<th>How this works</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relapse</td>
<td>Corticosteroids (methylprednisolone, prednisone, dexamethasone)</td>
<td>Shorten MS attacks by reducing inflammation in the brain and spinal cord.</td>
</tr>
<tr>
<td>Muscle spasms</td>
<td>Muscle Relaxants (Baclofen, Dantrolene, Tizanidine, Cyclobenzaprine, Clonazepam, Diazepam)</td>
<td>Relieve muscle spasms to assist with movement patterns.</td>
</tr>
<tr>
<td>Bladder problems</td>
<td>Urinary Tract Antispasmodics (Oxybutynin)</td>
<td>Relaxes bladder muscles and increases the bladder’s ability to hold urine. Reduces bladder spasms and the urge to pass urine thus lessens the frequency of involuntary urination.</td>
</tr>
<tr>
<td>Pain and spasticity</td>
<td>Cannabis derivative (Sativex*)</td>
<td>Provides relief from distressing symptoms like spasticity (stiffness and muscle spasms) and pain. Oral spray.</td>
</tr>
</tbody>
</table>

*Under a ‘named patient’ scheme a family doctor or neurologist can write to the Home Office on behalf of the person with MS to request Sativex to be imported from Canada, where it has a license (BBC news, 2005).
Provide residents with a few sips of water after eating to remove any lingering food in the throat.

Encourage clearing the mouth by deliberate coughing.

Allow residents to remain upright for at least 30 minutes after the meal in order to aid digestion.

**Emotional and cognitive effects**

Emotional problems of coping with exacerbations and remissions can be difficult for residents. MS can profoundly affect emotions ranging from the condition, fear, denial, anger, grief, depression, guilt and mood changes caused by MS itself. The National Multiple Sclerosis Society (2004) believes that education, support, a healthy lifestyle, medications and professional help when necessary, can make all the difference. Antidepressants may be prescribed but the NICE (2003) guidelines suggest that medication should be reviewed if cognitive problems arise to minimize iatrogenic cognitive losses (NICE, 2003).

**Practical tasks**

Physical problems cause difficulties with personal care and mobility. Assistive equipment and suitable mobility equipment can enable those suffering with MS to achieve a degree of independence. Often a slight alteration of technique can make tasks easier (Swann, 2004).

**Conclusion**

There is a substantial amount that care staff can do on a practical level to make life easier for residents and to offer them emotional support. Being alert to the onset of any speech problems and associated swallowing problems is important. The use of assistive devices can help to achieve some control over aspects of daily living. Specific items that can be useful for MS sufferers will be outlined in the next article. [NRC](#)

**BBC news (2005)** Cannabis drug available in the UK. [http://news.bbc.co.uk/1/hi/health/4438498.stm](http://news.bbc.co.uk/1/hi/health/4438498.stm) (accessed 4/7/06)


**Multiple Sclerosis Society (2004)** Swallowing and speech difficulties. [www.mssociety.org.uk/what_is_ms/publications_shop/swal_and_spech.html](http://www.mssociety.org.uk/what_is_ms/publications_shop/swal_and_spech.html) (accessed 4/7/06)

**Multiple Sclerosis Society (2005)** What is MS? [www.mssociety.org.uk/what_is_ms/facts/about_ms/what_is_ms.htm](http://www.mssociety.org.uk/what_is_ms/facts/about_ms/what_is_ms.htm) (accessed 4/7/06)


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**Further information**

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**KEY POINTS**

- **There is a genetic component to multiple sclerosis (MS).**

- **Autoimmunity may be a causative factor but the exact reason for MS is unknown.**

- **Treatment is aimed at controlling the symptoms and preventing further damage to the myelin sheaths.**

- **Swallowing problems can lead to inhalation pneumonia.**