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### ***Muscular Dystrophy***

The muscular dystrophies (MD) are a hereditary group of muscle diseases (affecting mainly males) which involve a progressive weakening and degeneration of the muscles controlling movement. They are incurable, and more often than not fatal. However, the worsening of the disability can be slowed by physical interventions like physiotherapy, and yoga therapy.

Myotonic MD seems to be the most common type affecting adults, and can be identified by the following symptoms:

- Delayed muscle relaxation after contraction
- Impaired nourishment of non-muscular tissue
- Weaknesses in the facial muscles, arms, legs and also the muscles affecting speech and swallowing
- Baldness
- Intellectual impairment
- Respiratory problems, and
- Heart Abnormalities in early adulthood

Duchenne MD seems to be the most common type affecting children. The signs and symptoms, as listed below, usually appear when the child reaches 3-5 years of age:

- Frequent falls
- Difficulty running, jumping, and getting up from a sitting or lying position
- Excessively large or well developed calf muscles
- Effected posture and gait
- Exaggerated lower back lordosis
- Weakness in the lower extremities
- Mild mental retardation
- Breathing difficulties and chronic disorders involving the heart muscles may develop during adolescence, usually once the individual becomes wheelchair bound.

From a yogic physiological perspective, Vyana vayu will be affected by the widespread impact of MD on all the differing muscular systems throughout the body, likewise much of the body's energetic system, including each of the chakras. One of the most significant areas affected in Myotonic MD, are the muscles involved in speech and swallowing. This is likely to impact the throat chakra, the centre for communication and expression. This, combined with the individual's inability to

move their own body as they might wish is likely to generate extraordinary levels of frustration, anger and/or a sense of hopelessness or a combination of all of these emotions and more. Unable to express these emotions, I can only imagine how the affected individual must feel. Any assessment would of course need to take these possibilities into account ~ exploring with the individual and their carer/s. The resulting yoga therapy practise could then be developed, taking into consideration the breadth of the persons other needs.

### *Assessment*

Assessment would need to include current and previous medical interventions, including any surgeries, drug therapies that have been utilised (past and previous, including the experience of side effects and impact on the individual's well-being), gaining permission to speak with relevant medical practitioners would also be important for greater understanding of treatments and reasoning behind each chosen intervention, it could also be a great opportunity to ascertain the practitioners perception of the individual's presentation and potential, and also enables you as the practitioner to gain access to results from follow up testing/monitoring (annual electrocardiography, pulmonary function studies, chest radiographs, and tests which monitor swallowing function). It would also be beneficial to explore any other complementary therapies (homeopathy, naturopathy, acupuncture, massage etc); including current movement interventions, management programs, and nutrition (an anti-inflammatory diet is often recommended i.e. one which focuses on organic wholefoods including; whole grains, vegetables, legumes, sea vegetables, and essential fatty acids – nuts, seeds, coldwater fish, the avoidance of refined foods and saturated fats). The diet may or may not be supported by nutrient supplements and/or herbal remedies). And of course, it's always useful to explore the individual/carers experiences with yoga, their reasons for wanting to try it as a therapy and their expectations.

If no other complementary therapies have been included in the individual's program, they may benefit from a referral for regular massage to reduce muscular spasms and muscle contractions. Likewise there have been studies which demonstrate the benefits of homeopathic remedies.

### *Yoga Therapy Practises*

Regardless of the level of degeneration, yoga therapy has the potential to provide a wonderful opportunity for encouraging individuals to feel pleasure in their bodies once more. It can also help individuals to realise they can still move their bodies in meaningful ways.

Given the nature of this disease, it would be important for most clients to include relaxation (with frequent rest periods throughout the asana practise), meditation (particularly mindfulness) and breathing practises (ujjayi and alternate nostril were recommended in one article to create clarity and counter fatigue and lethargy and yogic breath and viloma – to stretch and strengthen the muscles associated with breathing, for it is the strength of these muscles that usually determines the length of life for affected people).

Several texts recommended the individual be taken passively through the asana component of their practise (this of course depends on the individual's capacity). This passive experience not only supports the individuals reduced capacity, but allows the person to relax and begin to let go of the frustration of their "body no longer moving like it used to". As individuals are taken through each pose it is recommended that the focus is on slow movement, particularly into and out of poses, this allows time for the individual to relax tight and sore muscles and breathe into the sensations, encouraging a deeper release as they learn to relax more fully. By encouraging mindfulness throughout, the client has the opportunity to learn they may not need to react to intense sensations, and may ultimately bring about a greater understanding of pain (and subsequently a greater ability to manage it) and hopefully create a more supportive relationship with the body.

In terms of specific practises, there seemed to be a consensus that the main focus be joint rotations (Pavanamuktasana series). The degenerating muscle movement eventually leads to a restriction in the range of movements through each joint. Specifically the ankles, knees, hips and once the disease progresses, the joints of the upper limbs are affected too. Therefore, working slowly through the Pavanamuktasana series, concentrating on each joint, whilst also remembering to give prolonged stretching to hip flexions, hamstrings and calves would form the basis of the therapy.

### ***References***

Martini. Fundamentals of Anatomy and Physiology, 4<sup>th</sup> Ed.

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