Muscular system

Muscular Dystrophy Muscular dystrophy (MD) is a genetic disease of group of muscles that affects movement of the body primarily due to weakening. Observed in this disease is the developing of weakness of skeletal muscles, depletion of muscle proteins, and death of muscle cells and tissue. Muscular dystrophy is classified with nine diseases. These 1) Duchenne, 2) Becker, 3) limb girdle, 4) congenital, 5) facioscapulohumeral, 6) myotonic, 7) oculopharyngeal, 8) distal, and 9) Emery-Dreifuss. Aside from these, there are other disease that closely similar to Muscular dystrophy. There are some manifestations in the body systems of multi-system disorders when MD occurred such as in the heart, brain, eyes, skin, endocrine glands, are nervous systems. It also affects psychological component of a person, resulting with obscurity in learning and even mood swings. Muscular dystrophy is commonly occurred in males of all ages. The disease had become prominent during 1860s with numerous records of case in medical journals. Guillaume Duchenne, a French neurologist, had conducted a study among 13 boys with similar diseases in various degrees. Later on, his discovery of the disease had named after him, which is called Duchenne muscular dystrophy. In his study as well, experts had discovered that there are many forms of muscular dystrophy. The earliest notable symptoms of Muscular dystrophy are difficulty in climbing the stairs; younger age prefers to walk on the toes, loss of function, wobble and trip, difficulty to get up from a sitting position and find it complicated to do things that require pushing. The worse case of the MD patients is difficulty in walking, recurrent falls, calf pain, Scoliosis, drooping eyelids, and inability to walk. Pathophysiology Process. To be able to explain further the relationship of pathophysiology process of Muscular dystrophy, understanding the dystrophin-deficient

muscle is needed. In American Physiological Review's (APR, 2002) published medical journal, they were able to explain the pathophysiology of dystrophin-deficient muscle through their recent study of the relationship of pathophysiology process of muscular dystrophy to its anatomical structure. APR's study of dystrophin-deficient muscle had revealed the following information: Important abnormalities of dystrophin-deficient muscle cells have been demonstrated in three areas: calcium homeostasis, an increased susceptibility to oxidative toxins, and increased (and stress enhancable) membrane permeability. Confirmation that the absence of dystrophin is indeed responsible for these abnormalities comes from experiments in which dystrophin has been restored. They further explained that It highlights the abnormal permeability of mechanically stressed muscle cells as the primary problem and links this through changes in protease and calcium channel activity to explain how a cell with badly deranged calcium homeostasis could result. This could in turn trigger necrosis or apoptosis. It is the case, however, that details of several of these steps are missing, for example, the molecular identity of the abnormal calcium channel and the biophysical nature of the membrane deficit. The alterations that occur in dystrophin-deficient muscle are compound. It is also unraveling the underlying relationships between them, which is not basic. The complexity is compounded because the results explained is related to replica arrays at numerous diverse levels, which are intact animals, isolated whole muscles, single muscle fibers, and cultured myoblasts and myotubes. In conclusion, the deficiency of dystrophin may cause pathology by more than a particular distinctive method. References Blake, Derek J., Weir, Andrew, Newey, Sarah E., and Davis, Kay E. " Function and Genetics of Dystrophin and Dystrophin-

Related Proteins in Muscle," American Psychological Society, April 2002. Retrieved at http://physrev. physiology. org/content/82/2/291. full#sec-15

Miles, Cyra. The Anatomy of Muscular Dystrophy. EmpowHER. com. May 8, 2009. Retrieved at http://www. empowher. com/bones-amp-joints/content/anatomy-muscular-dystrophy