How the concentration of salt affect the rate of osmosis

How the concentration of salt affects the rate of Osmosis Osmosis is basically defined as a process in which the movement of water occurs from an area where there is a higher concentration of water to an area where there is a lower concentration of water. This movement mainly occurs through a selective membrane which allows the movement of a few substances but not all of them. This selective barrier only allows the movement of liquids and does not allow for the passage of solutes. Osmosis is mainly referred to as a physical process with no associated chemical changes. It does not require the provision of energy to be carried out. Osmosis is an important process for the living organisms because it is a part of many of the fundamental processes occurring in plants as well as animals. It is important for the transfer of fluids in the kidneys in human beings. It is also essential for the plants with regard to the process of photosynthesis. Therefore, it is important that this process should be understood clearly. There are many factors which serve as controlling and limiting factors in the process of osmosis. The concentration of salt also serves as an important factor in the process of osmosis. The addition of salt to a solution makes the solution hypertonic that is the concentration of salt increases in the solution and the water concentration becomes less. Similarly a hypotonic solution will be one which will have a lesser quantity of salt in comparison to the hypertonic solution and hence it will have a decreased salt concentration. If a selective barrier is formed between these two solutions which will only allow for the movement of water and prevent the movement of salt, the process of osmosis will occur. This process will follow the general rule of osmosis and water will naturally move from the hypotonic solution to the hypertonic solution. This process continues until and unless a stage of equilibrium is

reached. Equilibrium is defined as that point when the both the solutions acquire the same concentration and there is no net movement of water between the two solutions. This explains an important principle that water will always move from a region of higher concentration. Similarly there will be no net movement of water if both the solutions contain the same concentration of salt. This process normally occurs in the human cells where the cell membrane acts as a selective membrane and allows for the movement of water. References Fosbery, Robert & Jean McLean. Heinemann Coordinated Science: Higher. Biology.. Oxford: Heinemann Educational, 1996. Print. Top of Form Bottom of Form Top of Form Top of Form Ganong, William F. Review of Medical Physiology. New York: McGraw-Hill Medical, 2005. Print. Bottom of Form Bottom of Form Top of Form Top of Form Guyton, Arthur C, and John E. Hall. Textbook of Medical Physiology. Philadelphia: Saunders, 2000. Print. Bottom of Form Top of Form Bottom of Form Bottom of Form