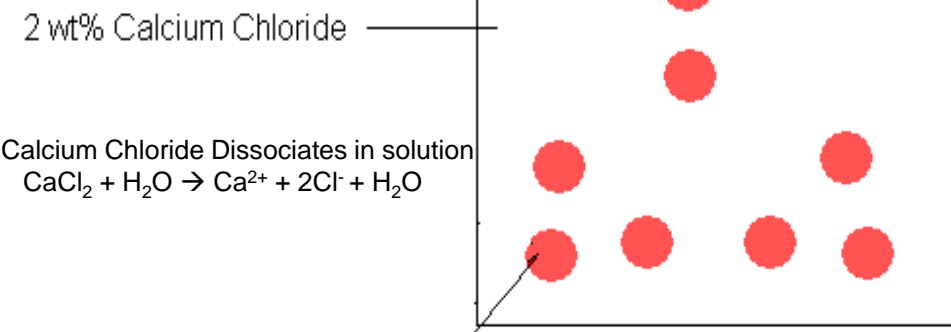
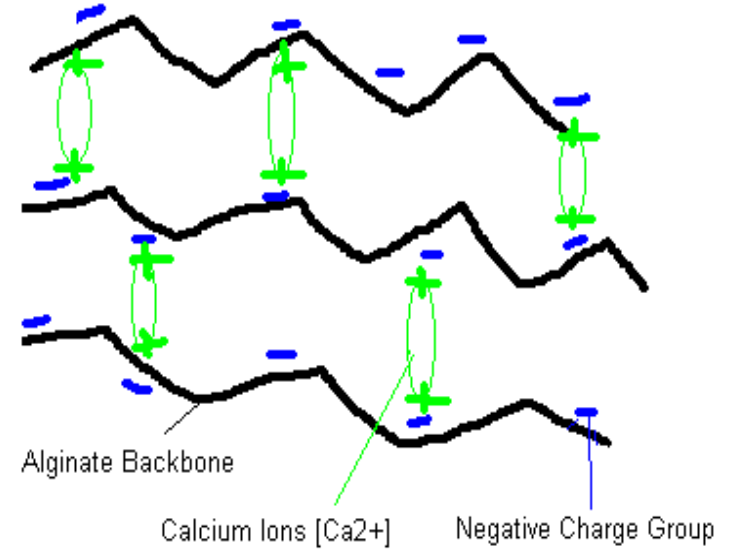
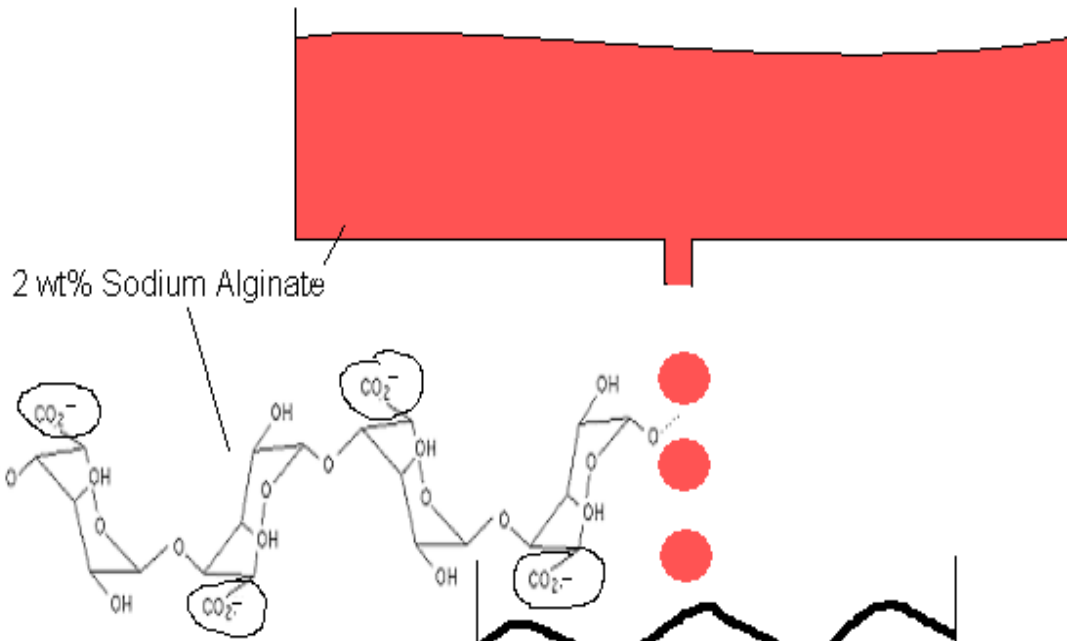


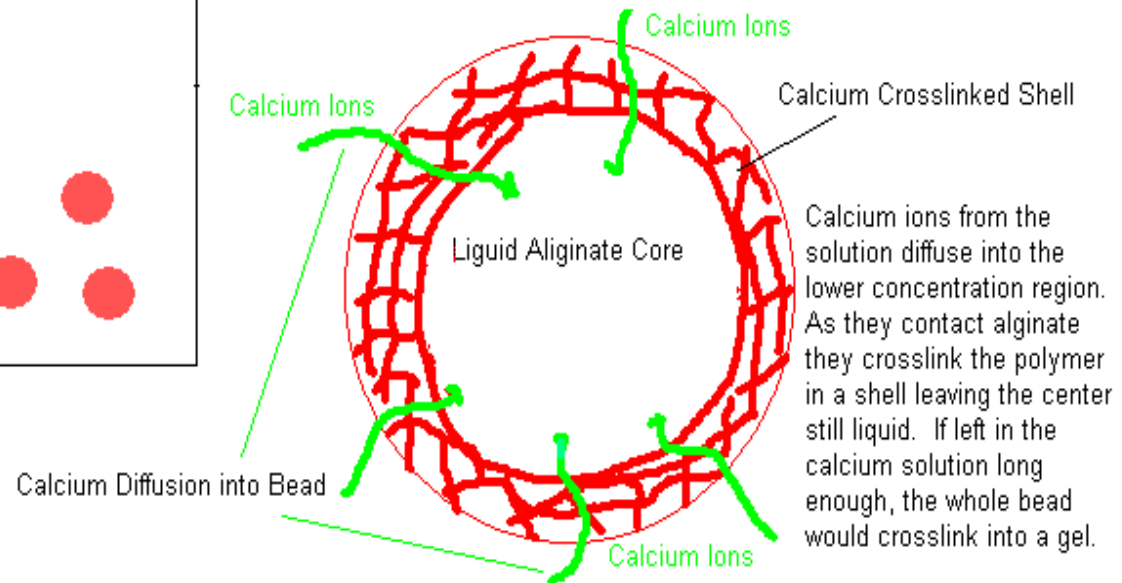
Gel Bead Production from Sodium Alginate

Crosslinking and Gelation



Diffusion and Crosslinking in the Bead

Alginate is Crosslinked by Calcium forming Gel Beads

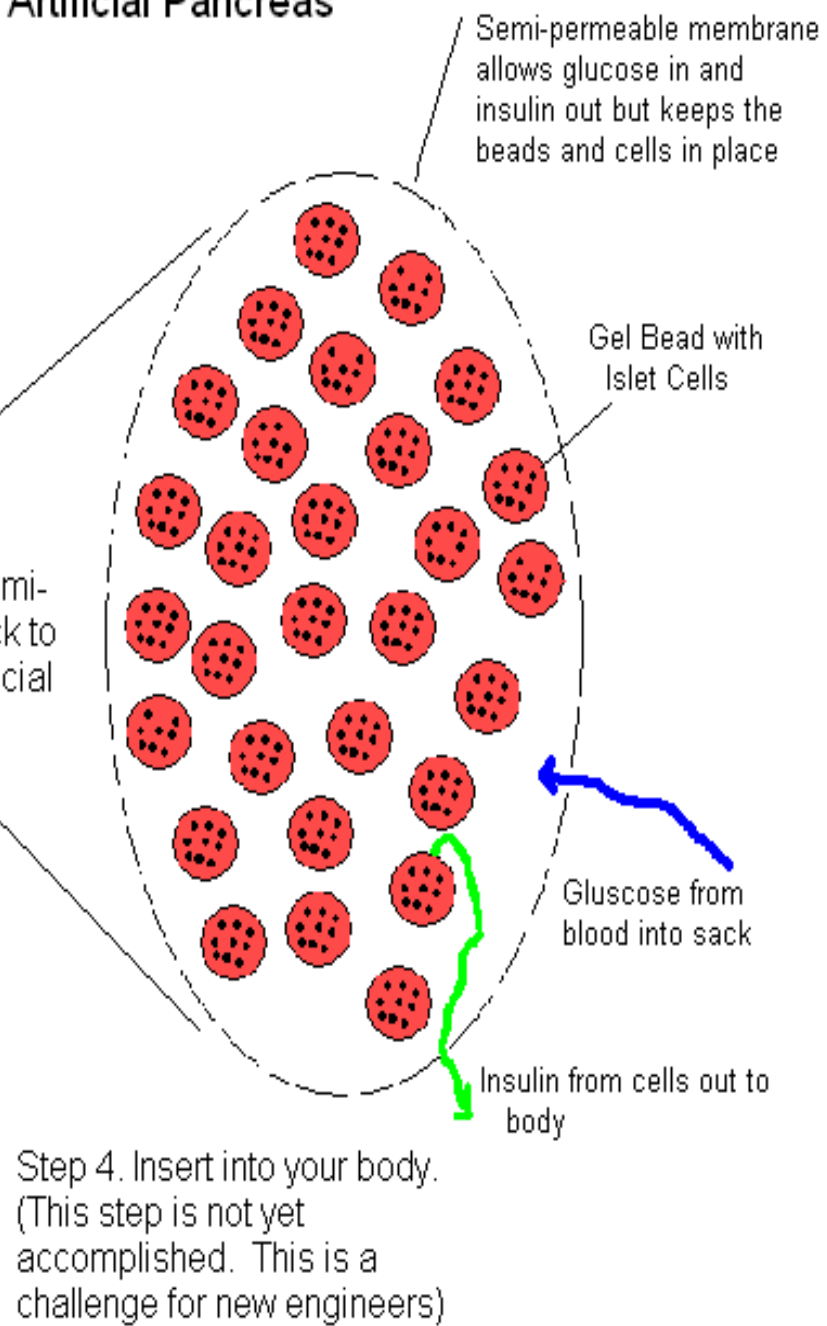
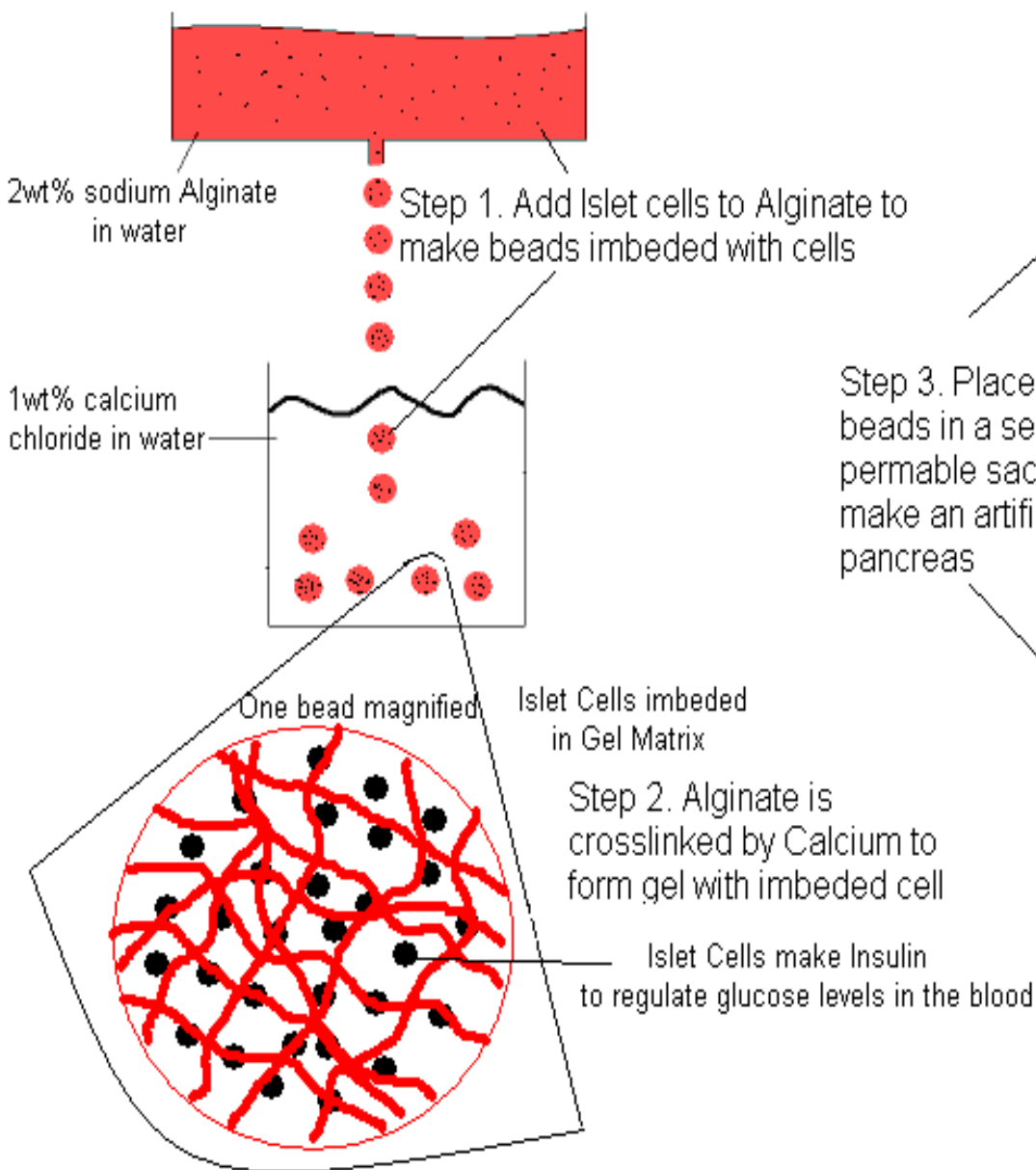


Calcium ions from the solution diffuse into the lower concentration region. As they contact alginate they crosslink the polymer in a shell leaving the center still liquid. If left in the calcium solution long enough, the whole bead would crosslink into a gel.

Gel Bead Applications - Artificial Pancreas



Gel Bead Production from Bulk solutions



The *ORBITZ Drink* – a blast from the past!



The Oregonian (1997) – “The spheres float because they have the same *specific gravity* as the surrounding liquid”

$$\text{Specific Gravity} \equiv \frac{\text{Density}_{\text{solution}}}{\text{Density}_{\text{water @ 4}^\circ\text{C}}}$$

Don't believe everything you read!

INGREDIENTS: Water, High Fructose **Corn Syrup**, Sugar, Sodium Citrate, Citric Acid, Natural Flavor, **Gellan Gum**, **Xanthan Gum**, color added