

surfaces were solubilized with 0.2M aqueous sodium hydroxide and the radioactivity was measured in the alkaline washes. This radioactivity was directly proportional to the number of the cells attached to the well surfaces and was used for calculating inhibition of cell attachment by the viscoelastic samples. The attachment of the cells in the control wells containing MEM was taken as 100% (no inhibition). The results are presented in Table 15.

TABLE 15

Inhibition of Cell Attachment to Solid Surfaces by Hylan Gel Slurries		
Sample Description	Polymer Concentration Weight %	Inhibition of Cell Attachment, %
Control	—	0
Hylan gel slurry	0.17	33
Hylan gel slurry	0.24	62
Hylan gel slurry	0.35	70
Hylan gel slurry	0.47	87
Hylan solution	1.00	94
Hylan gel-solution mixture 1:1	0.67	93

The results presented in Table 15 show that the cell movement and attachment to solid surfaces can be controlled by adjusting the polymer concentration in the hylan gel slurry and by mixing the hylan gel slurry with hylan solution with the formation of a viscoelastic hylan gel mixed slurry.

Variations and modifications can, of course, be made without departing from the spirit and scope of the invention.

Having thus described out invention what we desire to secure by Letters Patent and hereby claim is:

We claim:

1. A method of controlling the rheological and diffusion properties of a biocompatible viscoelastic gel slurry comprising a two phase mixture, a first phase being a particulate biocompatible gel phase, said gel phase comprising a chemically cross-linked glycosaminoglycan, or said glycosaminoglycan chemically co-cross-linked with at least one other polymer selected from the group consisting of polysaccharides and proteins, said gel phase being swollen in a physiologically acceptable aqueous medium and being uniformly distributed in the second phase, said second phase comprising a polymer solution of a water-soluble biocompatible polymer selected from the group consisting of polysaccharides, polyvinylpyrrolidone and polyethylenoxide in said physiologically acceptable aqueous medium, said method comprising changing the polymer concentration in the gel phase by partial removal of the physiologically acceptable aqueous medium from the equilibrated swollen gel before combining said two phases; said partial removal being effected by subjecting the gel phase to compression, such that there results a 1.05 to 1000 fold increase in the polymer concentration in the gel phase.

2. A method according to claim 1 wherein the increase in the polymer concentration is 1.1 to 500 fold.

3. A method according to claim 2 wherein the increase is 1.2 to 100 fold.

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