# Summary Report

Parameters
Number of particles: 40
Number of particles in damaged wall=5
Total time of simulation= 75 sec, 148 sec
Platelet velocity= 4 mm/s, 1 mm/s
Height of vessel (h)= 4 mm
Length of vessel= 10 mm
alpha=600.00;
mu=0.00001;
Particle radius r0=h/100;
Interaction radius r1=10*r0;
Spring constant k=10.01 N/m;
eta = 0.001;
Solution with low storage Runge Kutta.

Particles are randomly distributed along Y axis with parabolic velocity profile. Five particles are fixed at x=6.5,7.0,7.5,8.0,8.5 mm and y = 0 mm location of the domain. Two different velocities are studies to observe the clot formation process.

To verify the code each force is treated separately. When only forces from blood flow field was considered the particles were seen to move along the positive x axis with no change in vertical direction. Along the evolution of particles in different time step when two particles come close to each other the spring force becomes active the particles diverge from each other.



Particle evolution at different timestep vmax=4m/s

Particle evolution at different time steps for vmax=1 m/s
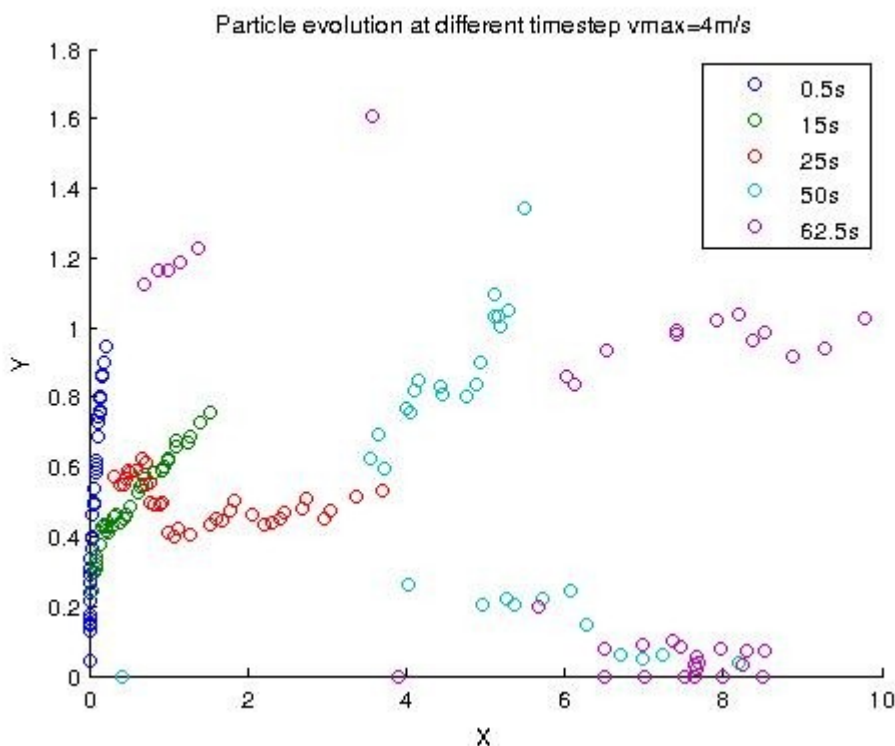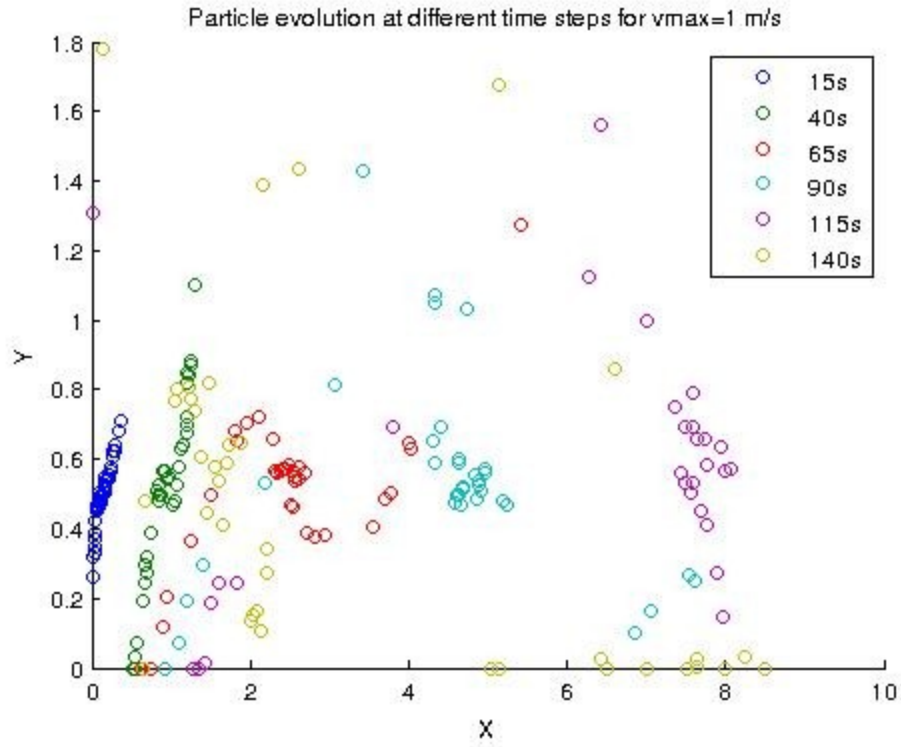
From the different velocities studies it is observed that as speed is low (1 mm/sec) the clot formation is slower and so it will take more time to form a considerable amount of cloth. When particle speed is higher the clot formation is faster as we in Figure[1]. The volume of clot is also higher.