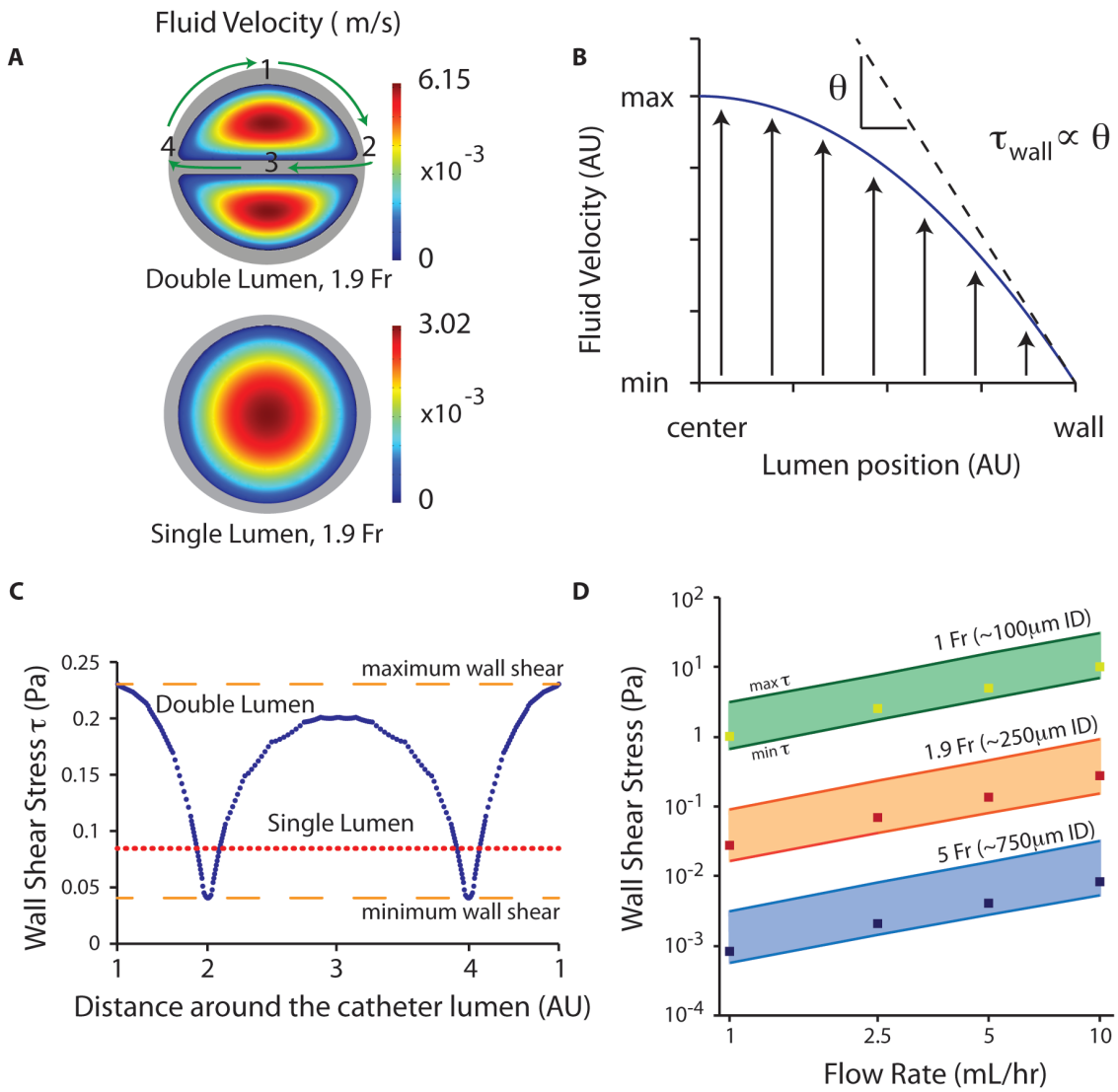
Figure S1


A
Fluid Velocity (m/s)
1
2
3
4
6.15
x10^-3
0
Double Lumen, 1.9 Fr
3.02
x10^-3
0
Single Lumen, 1.9 Fr
B
max
min
θ
τwall ∝ θ
Fluid Velocity (AU)
center
wall
Lumen position (AU)
C
Wall Shear Stress τ (Pa)
0.25
0.2
0.15
0.1
0.05
0
maximum wall shear
Double Lumen
Single Lumen
minimum wall shear
1
2
3
4
1
Distance around the catheter lumen (AU)
D
Wall Shear Stress (Pa)
10^2
10^1
1
10^-1
10^-2
10^-3
10^-4
1 Fr (~100μm ID)
max τ
min τ
1.9 Fr (~250μm ID)
5 Fr (~750μm ID)
1
2.5
5
10
Flow Rate (mL/hr)