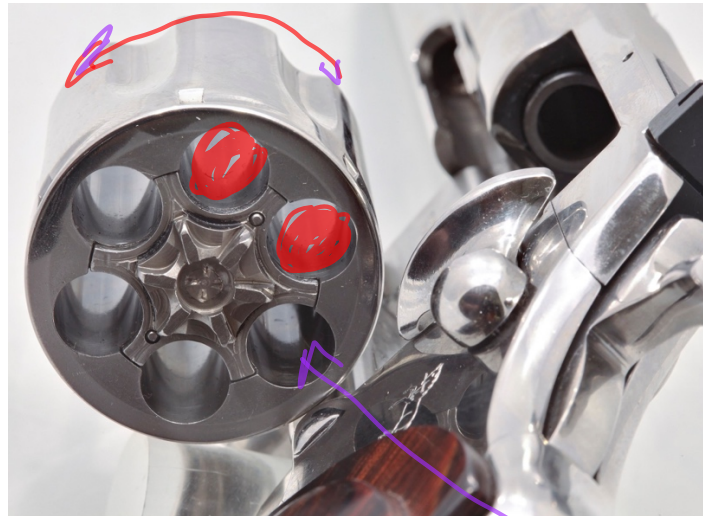You are invited to a game show. You have a revolver gun with 6 chambers and 2 rubber bullets. You put 2 bullets into adjacent chambers of the gun and spin it. You have a balloon right in front of you and you can fire two shots. If you hit the balloon with any shot, you win one million dollars. Your first shot is empty.

- Should you spin the barrel again before the 2nd shot?

H: The 2nd shot hit   1st Shot

E: The first shot empty

✓ $P(H) = \frac{1}{3}$

$P(H \mid E) = \frac{P(H \wedge E)}{P(E)} = \frac{1/6}{2/3} = \frac{1}{6} \cdot \frac{3}{2} = \frac{1}{4}$