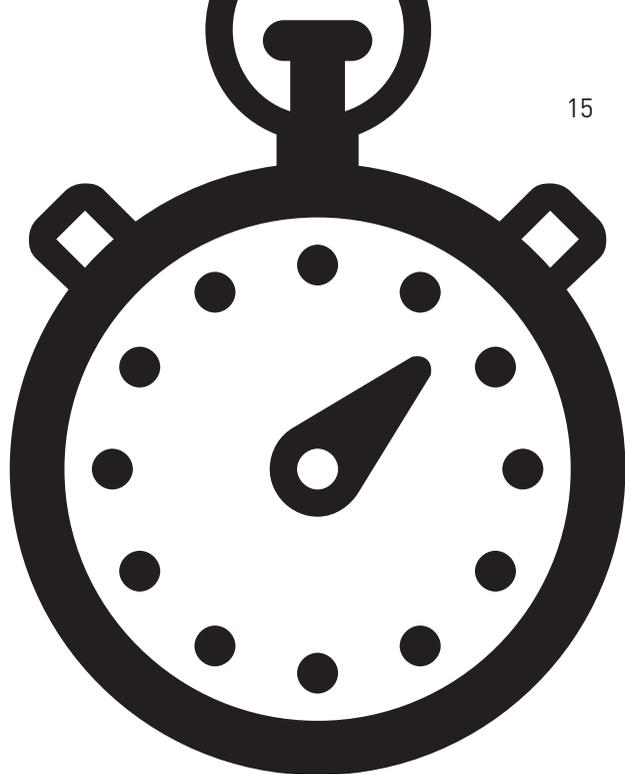


Beating the Clock: When Time is Muscle

An artery shuts. The heart tissue it supplies – this can be an area very big, or very small – becomes ischemic. White, bloodless, aching, starving for oxygen, it starts to die very quickly, and the clock starts ticking.

When time is muscle, every little bit counts. A few minutes here and there can add up to a great difference – in saving a life, and in saving a heart. And this is what the Heart Attack Team at Bayview has done – shaved a whopping 20 to 30 minutes off of what cardiologists call “door-to-balloon time,” the moment “the patient hits the door, to the time we inflate a balloon across the artery to open the blockage,” says Jeffrey Trost, M.D., Co-Director of Interventional Cardiology.

Ideally, this period should take less than 90 minutes; state regulations require a door-to-balloon time of less than 120 minutes for 80 percent of all cases. This is sometimes easier said than done, especially in the wee hours of the night, or on weekends or holidays, when the hospital is not running at full staff – and when two-thirds of all heart attack patients come in. Until a couple of years ago, Bayview had room for improvement; then several things happened at about the same time. Innovations led by Eric Howell, M.D., (and reported on in our last issue, available on our website) sped up the flow of patients from the Emergency Department to the hospital. A groundbreaking triage program got patients admitted faster, cutting the average stay in the Emergency Department by 25 percent. Further improvements – which involved hospitalists thinking like air-traffic controllers, managing the flow of patients from Intensive Care to stepdown units – made sure that ICU beds were almost always available. Because of this, Baltimore ambulances began bringing more heart attack patients to Bayview.



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The next step was to get those patients to treatment even faster. Instead of waiting for the on-call balloon team to arrive, Trost devised a plan to use people who are already there – a critical care unit nurse, radiation technologist, and an emergency physician – to serve as a transition team, while the regular interventional cardiology team is en route.

“The transition team gets the patients upstairs, puts them on the table, attaches the EKG leads, administers medications if necessary, and does the preliminary preparation,” says Trost. “Every step that the on-call team doesn’t have to do is a minute saved.” Even little things, like turning on the X-ray equipment, or putting a drape on the patient, add up.

The effort has paid off, in minutes. In 2008, the average door-to-balloon time was 79 minutes. “This is among the top 10 percent of any hospital in the country,” says Trost. “And our outcomes are very good. It’s one thing to do angioplasty quickly; you also have to help the patients do better. We are very proud of the fact that we have good door-to-balloon times, and our outcomes are terrific.” ■