BROADCAST-Lessons learned from Demar Hamlin's cardiac arrest

NFL Buffalo Bill's player Demar Hamlin is alive today because of quick action on the field of Monday Night's game after Hamlin collapsed after a tackle.

Dr. Sudhir Mungee, an interventional cardiologist at OSF HealthCare Cardiovascular Institute in Peoria says there are two big take-ways from what happened.

"So, two things that as a common citizen we all can learn is effective CPR and number two, to know how to use an automatic external defibrillator (AED). At most of the common places whether schools, colleges, business places, we have the presence of an AED. I think it is important to know how to use an AED because the earlier you can restore the rhythm from ventricular fibrillation to sinus rhythm, regular rhythm, the higher the chances of recovery." (:34)

There is a free smartphone app called Pulse Point that acts as a community registry to identify where AEDs are located and specifics to identify where they can be found in case of emergency. The American Heart Association regularly offers CPR and AED training.

After 48 hours, Hamlin awoke from sedation and was able to write a note that read, "Did we win?" and his doctors say he's "neurologically intact." Doctors still haven't said why Hamlin went into cardiac arrest. A heart attack is caused by blocked arteries but cardiac arrest, when the heart goes out of rhythm and stops has a number of causes; among them cardiomyopathy.

In athletes, "hypertrophic cardiomyopathy. (That's having a) very thick heart muscle, which is more prone to electrical disturbance, especially during strenuous activities." (:11)

If all other causes are ruled out, Dr. Mungee says a rare incident called commodio cordis (kuh-MOH-dee-oh KOR-dis) could be responsible.

"So about 10 to 30 milliseconds – if the impact happens during that risk window in that segment of the heart, with impactful energy, it can certainly lead to irregular heart rhythm, which is called ventricular fibrillation, Dr. Mungee explains. "Now, many times, it can spontaneously resolve, but if it doesn't, ventricular fibrillation will lead to sudden cardiac arrest and collapse." (:30)

With many parents of child athletes likely concerned in light of what happened to Hamlin, Dr. Mungee says coaches play an important role in protecting players.

"There is a tremendous role of your sports coach. For example, the coaches train our kids and athletes to know how to dodge the ball. If there is a pitch, how to avoid impact on the front of the chest, how to appropriately wear protective gear. That's very important."(:22)

Dr. Mungee says Hamlin's recovery could take weeks or months, but it'll be driven by neurological recovery which leads the path for recovery of the rest of the body because it impacts all cognitive and motor functions.