References


Cardiac arrest must be quickly recognized
Ask the caller: Is the patient conscious? And is the patient breathing normally?

The 2015 Guideline recommendations for Telephone CPR (T-CPR) cite two questions necessary to identify out-of-hospital cardiac arrest (OHCA): (1) Is the patient conscious? and (2) Is the patient breathing normally?

If the answer to both questions is “No,” then dispatchers should start CPR instructions as soon as possible. Don’t stray from these questions. Questions such as, “Does he have any health problems?” or “What’s his color look like?” waste time.

Asking if the patient is breathing normally allows dispatchers to catch the cases where patients have agonal breaths. Agonal breaths are common in cardiac arrest and are associated with better survival.1

If it isn’t clear whether the patient is breathing normally, you can ask the caller to put the phone by the patient’s mouth so you can listen for yourself. As a rule of thumb, you should start instructions for CPR if you aren’t sure. If the initial emergency call is for a person suffering seizures, the call taker should be highly suspicious of cardiac arrest. Call taker recognition of cardiac arrest is associated with improved survival.2

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It’s very important to listen closely to what callers report at the onset of calls. Sometimes callers provide all the information a dispatcher needs to know in the first moments: “My husband isn’t responding and he’s gasping for air.” Here there’s no need to ask any questions—it’s clear that the patient is an adult who may be in cardiac arrest.

Callers can give longwinded answers about the patient’s history or a recent surgery. Dispatchers should assert themselves, interrupting when needed and pointing callers back to the two essential questions. Oftentimes callers are in panic. Assure them you are sending help right away. This can be a kind of bargaining chip—you’ve done something for them, now you need them to do something for you.

The cardiac arrest patient needs good CPR
Survival is higher with good quality CPR before ambulance arrives.

About 55/100,000 citizens per year are treated from sudden cardiac arrest,3 of which 2.2/100,000 are younger than 35 years.4 The median age is 67 years, 64% are males and 70-80% occur where people live.5-7

The best combination for the patient is T-CPR trained lay people, trained dispatchers and dispatcher training programs.8-10 Effective teamwork in telephone CPR can result in rapid OHCA recognition, good quality chest compressions, and improved survival.11-13 The importance of the dispatcher in Chain of Survival is now recognized by the 2015 Guidelines, the Institute of Medicine report14 and the 10 steps to Improve Survival.15

CPR save lives. One study reported more than 4 times better survival among those who received CPR before ambulance arrival.11 CPR has also been shown to sustain VF12,13 which can make the AED more useful. Not all patients need an AED. About half of patients admitted to hospital alive are not defibrillated,11 but all of them received CPR.

Just giving chest compressions before an ambulance arrive is an acceptable alternative to traditional CPR for most patients.12-14 However, traditional CPR is best for children and adults with non-cardiac causes such as drowning and choking.14 Good outcome was 5 times more common among children who received traditional CPR compared to chest compression only CPR.14

Bystander CPR quality varies. In three studies, only half of the bystanders gave good CPR.15-17 Survival with good CPR was almost 3 times higher than with poor CPR, and survival with good CPR was 7 times higher than for no CPR, in one study.17

The cardiac arrest bystander needs help
Both trained and untrained bystanders perform better with telephone-CPR

Bystanders are afraid to cause harm. In one study, only 2% of patients not in cardiac arrest suffered a fracture from CPR, and none suffered from visceral organ injury.12

Half of bystanders are elderly and retired, and just 12% are below 35 years of age.17 Survival in homes is lower than in public places due to a lack of bystander CPR in the home.18-20 The bystander is often alone with the victim.21 CPR is most commonly performed by a family member, and the bystander is a stranger in only 5% of the cases.21

Two studies found that just half of the bystanders are CPR trained.16,22 Of CPR trained bystanders who called 911 for help, only 1/3 did CPR by their own initiative. The main reason for not doing CPR was panic.23 When trained bystanders received instructions from a dispatcher, 75% of them did CPR.7 By just training the lay public in CPR, bystander CPR rates reached a plateau in Seattle.24 This initiated the development of Telephone CPR, and increase in bystander CPR and survival followed.25,26

Even health care professionals can benefit from dispatcher assistance. One study showed they are no better than laymen in evaluating the emergency situation correctly.25

Giving effective rescue breaths is difficult, and only half of bystanders in New York were able to deliver effective ventilations.19 In a simulation study, dispatcher instructions improved the proportion of effective ventilations from 43% to 77%.21

The dispatcher and the caller are the first resuscitation team
Patients receive more and better CPR with telephone-CPR

Places with high bystander CPR rates, like Stavanger (73%), Seattle (69%), Sweden and Denmark (66%) have for many years invested in both telephone CPR and bystander CPR training programs.8-10,24 Effective teamwork in telephone CPR can result in rapid OHCA recognition, good quality chest compressions, and improved survival.11-13 The importance of the dispatcher in Chain of Survival is now recognized by the 2015 Guidelines, the Institute of Medicine report14 and the 10 steps to Improve Survival.15

Dispatcher training can improve OHCA recognition and reduce the time to first compression.15,16 With careful tuning, dispatcher instructions can further reduce this time and, with continuous coaching, improve CPR quality.16-20

Training lay people for T-CPR will make them better prepared for the real situation and is offered in Norway and in Seoul.11 People do not want to do CPR alone. People who just completed traditional CPR training said that dispatcher assistance would make it easier for them to start CPR, according to a Swedish interview study.24

The best combination for the patient is T-CPR trained lay people, trained dispatchers and dispatcher instructions with continuous coaching. When testing this combination in a 10 minute simulated sudden cardiac arrest scenario, the result was 1056 chest compressions compared to 852 chest compressions when traditional bystander training and traditional dispatcher instructions were used.27