

# 心肺复苏的细节问题

急诊科 何永亮

# 现状

## VIEWPOINT

### Cardiopulmonary Resuscitation Training in China Current Situation and Future Development

中国院外心脏骤停的生存率低于1%（美国为12%）

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In China, there are more than 230 million people with cardiovascular disease, and 550 000 individuals experience cardiac arrest every year. The survival rate of out-of-hospital cardiac arrest is less than 1% in China (compared with 12% in the United States). Early initiation and good quality of cardiopulmonary resuscitation (CPR) by bystanders and automated external defibrillator use are crucial for saving patients in cardiac arrest. However, the implementation rate for bystander CPR in China is low (4.5% in 8 large and medium-sized cities around China, 11.4% in Beijing, and 4.2% in Shanghai, vs 46.1% in the United States, 29% in Canada, 46%-73% in Sweden, 32.2% in Japan, and 21.2% in Australia), and the quality is also poor, which is reflected by the low survival rates following bystander CPR in China.<sup>1</sup> In addition to laws, culture, and publicity, the lack of dissemination of CPR training among the lay public is a critical cause for the low rate of bystander CPR. In the United States, 13.1 million persons received CPR training in 2012.<sup>2</sup> However, the prevalent training rate in China is less than 1% (33% in the United States, 40% in France), and skill retention training is also rare.<sup>2,3</sup>

On October 12, 2016, the first CPR training center for the general public in China, which is supported by the American Heart Association (AHA) and the China Social Assistance Foundation, was established in Beijing.<sup>4</sup>

dreds of training centers sponsored by the AHA or American Red Cross in every state.<sup>2</sup> Moreover, the financial support of China's centers usually comes from these institutions themselves, rather than from public funding sources. These training centers are often established to meet a temporary need by these medical institutions, and the model is difficult to expand throughout the country due to lack of coordination of those institutions and the decentralized nature of this funding. Thus, it is impossible for these centers to be responsible for national training of the general public, regardless of financial support or training faculty.

The second issue is the availability of full-time, dedicated trainers. In the aforementioned training centers, many physicians in emergency or cardiology departments were recruited as part-time trainers, and they usually had to dedicate substantial time to this work in addition to their clinical responsibilities. Although this kind of use of specialists rich in CPR knowledge and skills boosted the rapid development of CPR training centers in China in the initial stage, this model poses a heavy additional burden on professionals with substantial outside clinical responsibilities. Skilled Chinese physicians are in short supply and already overworked, and their number is insufficient for the need of widespread public training.

中国，院外人群进行心肺复苏（CPR）率很低（中国8个中、大城市的复苏率4.5%，其中北京11.4%，上海4.2%，而美国是46.1%，加拿大29%，瑞典46-73%，日本32.2%，澳大利亚21.2%）

中国普遍的培训率低于1%（在美国占33%，在法国占40%）

# 现状



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# 现状



< aed

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- AED**

23.5km | 北京市朝阳区北京首都国际机场...

到这去
- AED(北京中海大厦点)**

21.7km | 石景山路与古城大街交汇处西50...

电话 到这去
- AED自动体外心脏除颤器**

25.0km | 北京市市顺义区北京首都国际机...

到这去
- AED**

25.2km | 北京市市顺义区北京首都国际机...

到这去
- AED(天路星苑)**

25.3km | 北京市洋桥12号院天路星苑

到这去

共找到“aed”相关363个结果

没有找到想要的结果吗，您也可以在地图上添加地点

# 案例

- 某老年男性，在医院对面突然倒地，伴呕吐、意识丧失，120医师到达后发现患者昏迷、大动脉搏动消失，立即边行心肺复苏，边转送至医院，到达医院后患者自主循环恢复，没有自主呼吸，立即气管插管，插管时发现气管内大量食物残渣，吸出后给予机械通气等抢救措施。8天后，撤除呼吸机，建议家属气管切开，家属不同意，15天左右拔除气管插管。3个月后病人死亡。
- 某青年女性，因“腹痛四个小时”来诊，就诊时精神萎靡，面色苍白、血压低、心率慢，急诊医师救治时突然意识丧失、大动脉搏动消失，立即心肺复苏，患者自主呼吸循环恢复（ROSC），后穹窿穿刺见新鲜血性液体，床边彩超示：腹腔大量积液，考虑宫外孕，立即手术，术后转入ICU。数周后病人痊愈出院，无任何后遗症。

时间

4分钟

10分钟

90%

0%



# 时间

- 两个10秒

# 时间

- 一个两分钟



# 时间

- 由时间想到的
- 抢救室布局
- 复苏床
- 推车



# 评估





抖音

抖音号:huanqiuwang

# 评估



图 6-2 呼



图 6-9 触摸颈动脉搏动

# 评估

## • 按压人中的争议

近日郑州机场有位旅客突然昏厥，倒在机场服务人员面前。机场贵宾室三位工作人员上前，拨打急救电话，跪地接力心肺复苏。一番**按压后**，旅客胸闷、头晕等症状有所缓解，为医护人员的到来争取了时间。（大河报报道）



上面这段是媒体的原话。看完你是点赞？还是脑子有点凌乱？

在很多公众的眼里，急救就是掐人中！你看，那么多昏厥的，都掐醒了。

## 【夜鹰急救说】掐人中有急救作用吗？

夜鹰 急诊夜鹰 7月25日

要说中国人最普及的急救技能，一定非掐人中莫属，很多你目睹或听闻的场景里，掐人中常常有着惊人的“效果”真的是这样吗？

看夜鹰解读



# 历史

## • 中国古代心肺复苏

《金匱要略》：“救自缢死……徐徐抱解，不得截绳，上下安被卧之。一人以脚踏其两肩，手少挽其发，常弦弦勿纵之；一人以手按据胸上，数动之；一人摩捋臂胫屈伸之，若已僵，但渐渐强屈之，并按其腹。如此一炊顷，气从口出，呼吸眼开，而犹引按莫置，亦勿苦劳之”。

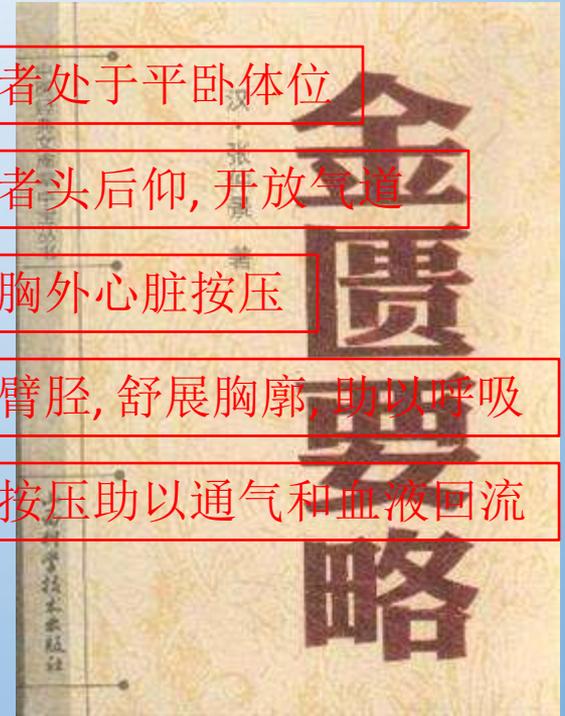
使患者处于平卧体位

使患者头后仰, 开放气道

连续胸外心脏按压

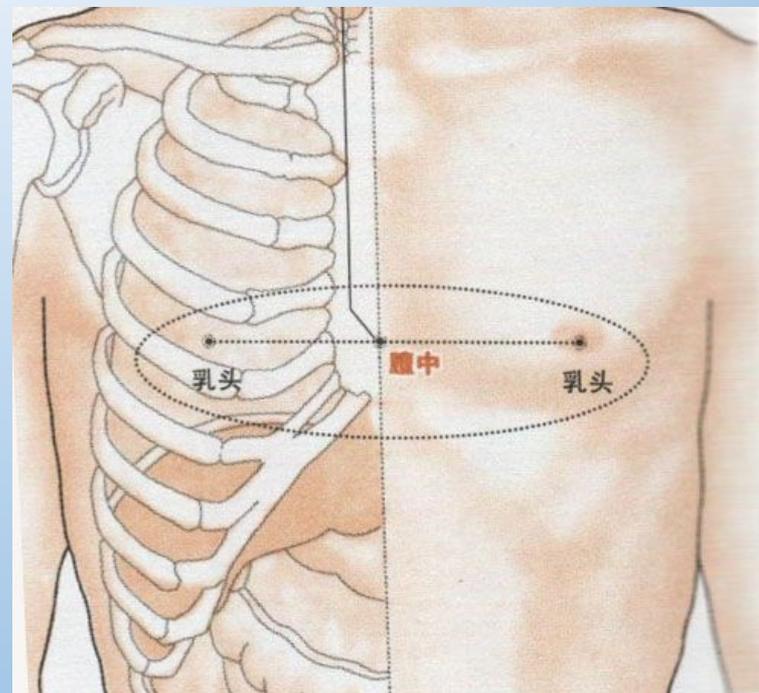
屈伸臂胫, 舒展胸廓, 助以呼吸

腹部按压助以通气和血液回流



# 历史

- 膻中的奥秘
- 《灵枢·海论》记载：“膻中者，为气之海。”
- 《灵枢·胀论》记述：“膻中者，心主之宫城也。”



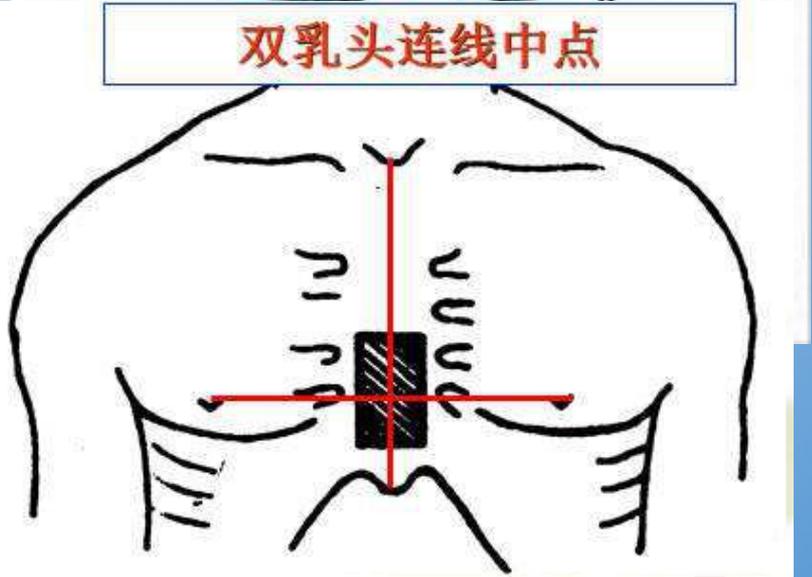
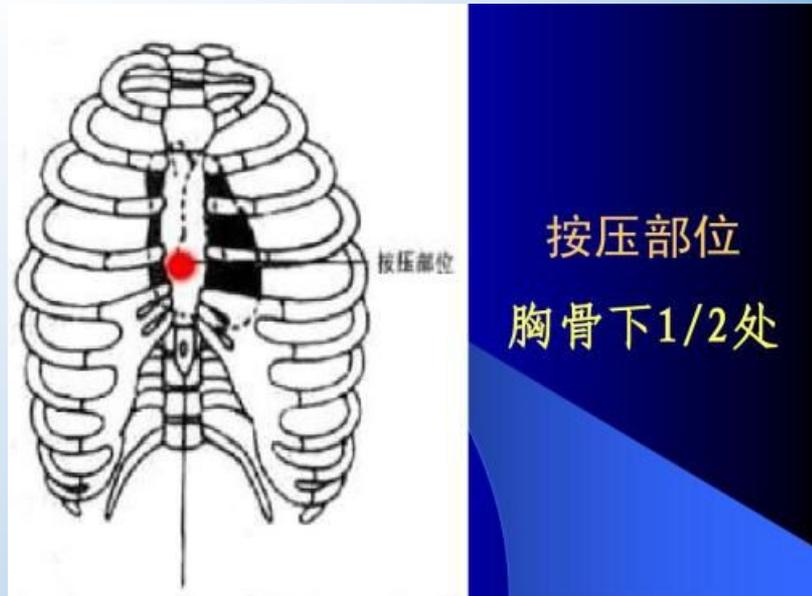
陈晓松,钟恺立,沈洪. 中国"急救"史论(系列)之四现代复苏按压"点"恰合于心脏经"膻中"穴[J]. 中国急救医学,2011,(6):555-556.  
DOI: 10.3969/j.issn.1002-1949.2011.06.020.

# 位置

## • 心脏按压点的变更

- 1960年Kouvenhoven对胸外按压部位的描述为胸骨下段<sup>1</sup>
- 《2000年国际心肺复苏和心血管急救指南》：剑突上两横指
- 《2005年国际心肺复苏和心血管急救指南》：两乳头连线的中点

1. Kouwenhoven WB. Closed-chest cardiac massage[J]. JAMA, 1960, 173: 1064.



# 位置

- 复苏者站位



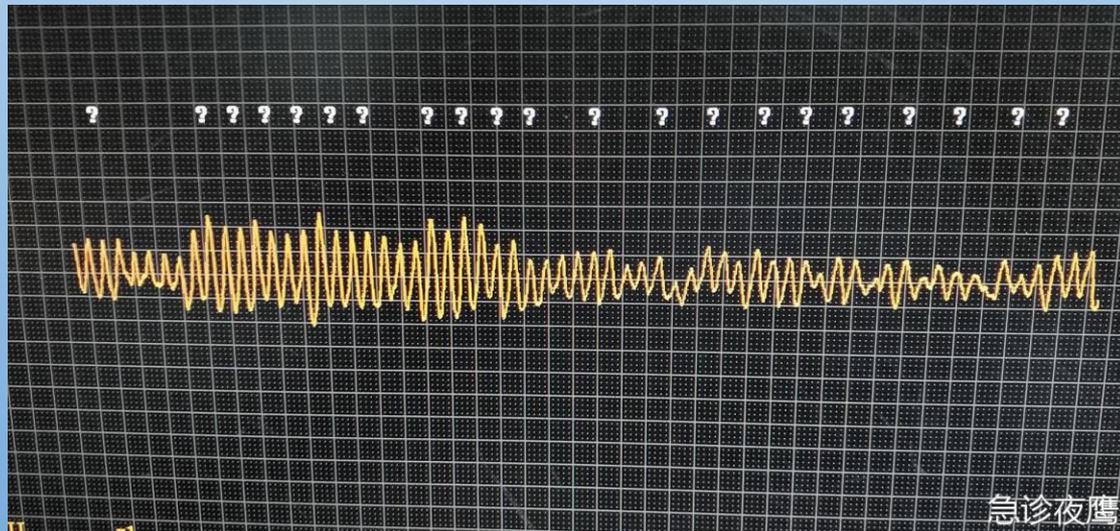
# 顺序

- ABC, CAB, 是什么决定了CPR的顺序

# 顺序

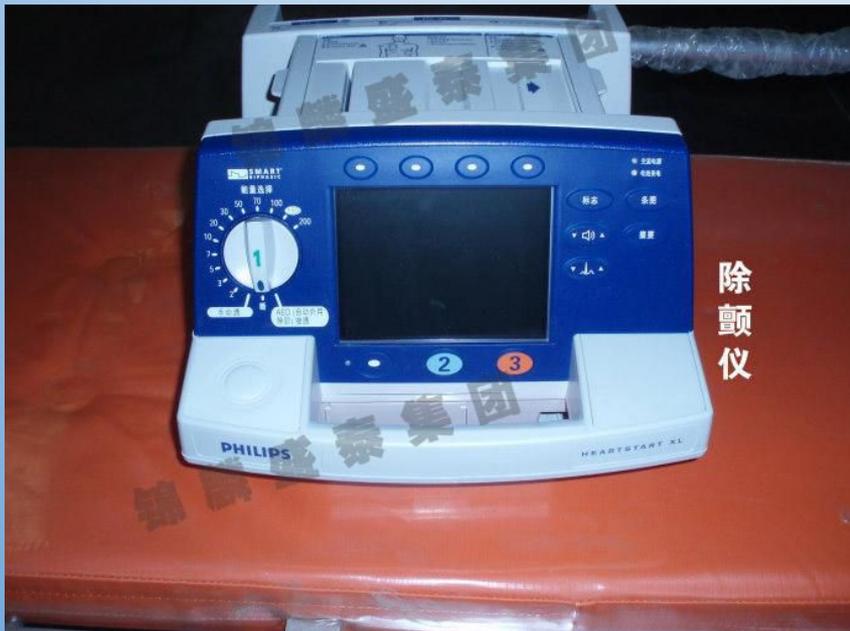
- 老年男性，因胸痛急诊，拟诊“急性心肌梗死”，救治过程中突然意识丧失、大动脉搏动消失。
- 男性患者，80岁，高血压、脑梗塞病史，人工髋关节置换术后两小时，家属自行喂食，患者呕吐一次，突然意识丧失，呼吸停止、大动脉搏动消失。
- 护士每日例行检查设备，正在检查除颤仪，突然发现抢救2床患者意识丧失，心电监护显示室颤，大动脉搏动消失。

# 除颤



# 除颤

- 单相波还是双向波



谢谢您的聆  
听！