Hjerte-/lungeredning og intensivbehandling hos eldre

Grunnkurs III i geriatri, Trondheim

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Nils Kristian Skjærvold

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Carlsen *et al. BMC Geriatrics* (2017) 17:249
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BMC Geriatrics

CASE REPORT Open Access

A 95 year-old suffering circulatory arrest after accidental hypothermia: a case report

Anders Wetting Carlsen[1], Anders M. Winnerkvist[2] and Guri Greiff[1,3*]

Abstract

Background: The elderly are vulnerable to cold and prone to accidental hypothermia, both because of environmental and endogenous factors. The incidence of severe accidental hypothermia among the elderly is poorly described, but many cases probably go unrecorded. Going through literature one finds few publications on severe hypothermia among the elderly, and, to our knowledge, nothing about extracorporeal re-warming of geriatric hypothermia victims.

Case presentation: We present a case were a 95 year-old man with severe accidental hypothermia and circulatory arrest was brought to our hospital under on-going CPR, and was successfully resuscitated with extracorporeal circulation. He was discharged to his home without physical sequelae a few weeks later.

Conclusion: The decision whether or not to continue resuscitation of a nonagenarian can be difficult in many respects. Knowing that resuscitation with extracorporeal circulation is resource intensive may complicate the discussion. In light of our experience with this case we discuss medical and ethical aspects of modern treatment of severe accidental hypothermia.

Keywords: Accidental hypothermia, Resuscitation, Extracorporeal life support, Cardiopulmonary bypass, Extracorporeal circulation

Hjerte-/lungeredning


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The NEW ENGLAND JOURNAL of MEDICINE

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A Randomized Trial of Epinephrine in Out-of-Hospital Cardiac Arrest

G.D. Perkins, C. Ji, C.D. Deakin, T. Quinn, J.P. Nolan, C. Scomparin, S. Regan, J. Long, A. Slowther, H. Pocock, J.J.M. Black, F. Moore, R.T. Fothergill, N. Rees, L. O'Shea, M. Docherty, I. Gunson, K. Han, K. Charlton, J. Finn, S. Petrou, N. Stallard, S. Gates, and R. Lall, for the PARAMEDIC2 Collaborators*

ABSTRACT

BACKGROUND

Concern about the use of epinephrine as a treatment for out-of-hospital cardiac arrest led the International Liaison Committee on Resuscitation to call for a placebo-controlled trial to determine whether the use of epinephrine is safe and effective in such patients.

METHODS

In a randomized, double-blind trial involving 8014 patients with out-of-hospital cardiac arrest in the United Kingdom, paramedics at five National Health Service ambulance services administered either parenteral epinephrine (4015 patients) or saline placebo (3999 patients), along with standard care. The primary outcome was the rate of survival at 30 days. Secondary outcomes included the rate of survival until hospital discharge with a favorable neurologic outcome, as indicated by a score of 3 or less on the modified Rankin scale (which ranges from 0 [no symptoms] to 6 [death]).

RESULTS

At 30 days, 130 patients (3.2%) in the epinephrine group and 94 (2.4%) in the placebo group were alive (unadjusted odds ratio for survival, 1.39; 95% confidence interval [CI], 1.06 to 1.82; P=0.02). There was no evidence of a significant difference in the proportion of patients who survived until hospital discharge with a favorable neurologic outcome (87 of 4007 patients [2.2%] vs. 74 of 3994 patients [1.9%]; unadjusted odds ratio, 1.18; 95% CI, 0.86 to 1.61). At the time of hospital discharge, severe neurologic impairment (a score of 4 or 5 on the modified Rankin scale) had occurred in more of the survivors in the epinephrine group than in the placebo group (39 of 126 patients [31.0%] vs. 16 of 90 patients [17.8%]).

CONCLUSIONS

In adults with out-of-hospital cardiac arrest, the use of epinephrine resulted in a significantly higher rate of 30-day survival than the use of placebo, but there was no significant between-group difference in the rate of a favorable neurologic outcome because more survivors had severe neurologic impairment in the epinephrine group. (Funded by the U.K. National Institute for Health Research and others; Current Controlled Trials number, ISRCTN73485024.)

The authors' full names, academic degrees, and affiliations are listed in the Appendix. Address reprint requests to Dr. Perkins at Warwick Clinical Trials Unit, Warwick Medical School, University of Warwick, Coventry CV4 7AL, United Kingdom, or at paramedictrial@warwick.ac.uk.

*A complete list of collaborators in the PARAMEDIC2 trial is provided in the Supplementary Appendix, available at NEJM.org.

This article was published on July 18, 2018, at NEJM.org.

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DOI: 10.1056/NEJMoa1806842

Clinical paper

Out-of-hospital cardiac arrests in the older age groups in Melbourne, Australia☆

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CPR

ABSTRACT

Background: Controversy exists around CPR in the elderly. The characteristics and outcomes of out-of-hospital cardiac arrest (OHCA) in this age group were studied in Melbourne, Australia.
Methods: The Victorian Ambulance Cardiac Arrest Registry (VACAR) was searched for all OHCAs not witnessed by Emergency Medical Services (EMS) occurring in those aged 65 years and older.
Results: Between 2000 and 2009 there were 30,006 OHCAs of which 9703 (32%) were in people 65–79 years of age, 6430 (21%) in octogenarians, 1530 (5%) in nonagenarian and 40 (0.1%) in centenarians. Rates of attempted resuscitation decreased with advancing age: 48% for those aged 65–79 years, 39% for octogenarians, 31% for nonagenarians and 17% for centenarians. Similarly rates of survival to hospital discharge decreased with age: 8% for those aged 65–79 years, 4% for octogenarians, 2% for nonagenarians; for 65–79 year olds, octogenarians and nonagenarians survival if in VF/VT was – 17%, 10% and 4%; asystole – 1%, 1% and 0.5%; and PEA – 6%, 3% and 3%, respectively. Multivariable logistic regression shows that between 2000 and 2009 rates of transportation with return of spontaneous circulation have improved for both shockable and non-shockable rhythms [OR 95% CI 1.07(1.04–1.10) and 1.16(1.12–1.20), respectively] but survival to hospital discharge has improved in the shockable rhythm group only [OR 1.12(1.07–1.16)].
Conclusion: Outcomes for OHCA with shockable rhythm have improved over the last 10 years for people aged 65 years and over. Quality of life studies should be performed to help inform the community and EMS on appropriate resuscitative efforts.

JAMA Network | Open

Original Investigation | Emergency Medicine

Outcomes of Patients 65 Years or Older After Out-of-Hospital Cardiac Arrest Based on Location of Cardiac Arrest in Japan

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Abstract

IMPORTANCE Out-of-hospital cardiac arrest (OHCA) is a major public health issue, and in recent years, the number of OHCAs among the elderly population, aged 65 years or older, has significantly increased in developed countries.

OBJECTIVE To evaluate the demographic and clinical characteristics and outcomes of patients 65 years or older who experienced OHCA based on the location—public, residential, or nursing home—where it occurred in Japan.

DESIGN, SETTING, AND PARTICIPANTS This prospective, nationwide, population-based cohort study used information collected by the All-Japan Utstein Registry to examine data from 293 615 patients 65 years or older who experienced OHCA during the period from January 2013 to December 2015 in Japan. Data analyses were conducted from June to July 2018.

MAIN OUTCOMES AND MEASURES The primary outcome was 1-month survival with a favorable outcome that was defined as a cerebral performance category score of 1 or 2 (1, good cerebral performance; 2, moderate cerebral disability; 3, severe cerebral disability; 4, coma or vegetative state; and 5, death or brain death). Multivariable logistic regression analyses were conducted to examine favorable outcome by location.

RESULTS A total of 233 511 patients with OHCA were included in the final analysis; 29 911 (12.8%) occurred in a public location, 157 087 (67.3%) at a residential location, and 46 513 (19.9%) at a nursing home. The median age of the patients was 83.0 years (interquartile range, 76.0-88.0 years), and the proportion of men was 53.1% (124 108 of 233 511). The proportion of favorable neurologic outcomes was 4.5% (1351 of 29 911) in public locations, 1.0% (1555 of 157 087) in residential locations, and 0.6% (301 of 46 513) in nursing homes. Patients with cardiac arrests in public locations had a significantly higher likelihood of achieving a favorable neurologic outcome than those in residential locations (adjusted odds ratio, 1.36; 95% CI, 1.25-1.48), whereas those in nursing homes were less likely to achieve a favorable neurologic outcome (adjusted odds ratio, 0.62; 95% CI, 0.54-0.72). However, this difference in outcomes among patients based on location decreased with age.

CONCLUSIONS AND RELEVANCE The outcomes of patients 65 years or older after OHCA differed by the location of the cardiac arrest. These outcomes may be improved by updating existing response measures across all locations.

Key Points

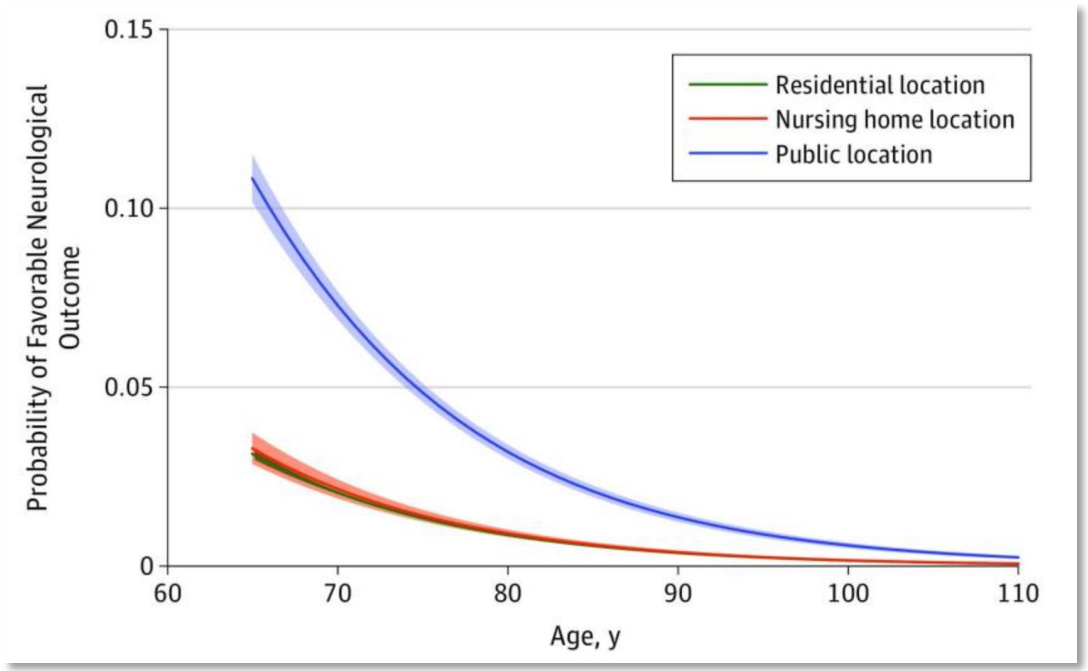
Question Do the characteristics and outcomes of out-of-hospital cardiac arrest among patients aged 65 years or older differ by the location where the arrest occurs (public, residential, or nursing home) in Japan?

Findings In this Japanese nationwide, population-based cohort study of 233 511 persons 65 years or older, the incidence of and the demographic and clinical characteristics of the patients and their outcomes following out-of-hospital cardiac arrest differed according to the location of the arrest. However, the differences in outcomes among patients based on location decreased with age.

Meaning These results support implementing improved resuscitation strategies for persons experiencing out-of-hospital cardiac arrest in other industrialized countries.

+ Invited Commentary

Author affiliations and article information are listed at the end of this article.



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Resuscitation

journal homepage: www.elsevier.com/locate/resuscitation

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Clinical paper

Age-specific trends in incidence and survival of out-of-hospital cardiac arrest from presumed cardiac cause in Denmark 2002–2014

Matilde Winther-Jensen[a,b,*], *Mia Nielsen Christiansen*[a], *Christian Hassager*[a], *Lars Køber*[a], *Christian Torp-Pedersen*[c], *Steen Møller Hansen*[c], *Freddy Lippert*[d], *Erika Frischknecht Christensen*[e], *Jesper Kjaergaard*[a], *Charlotte Andersson*[f,g]

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[f] Department of Cardiology, The Cardiovascular Research Centre, Herlev and Gentofte Hospital, University of Copenhagen, Hellerup, Denmark
[g] Department of Medicine, Section of Cardiovascular Medicine Boston Medical Center, Boston University Boston, MA, USA

Abstract

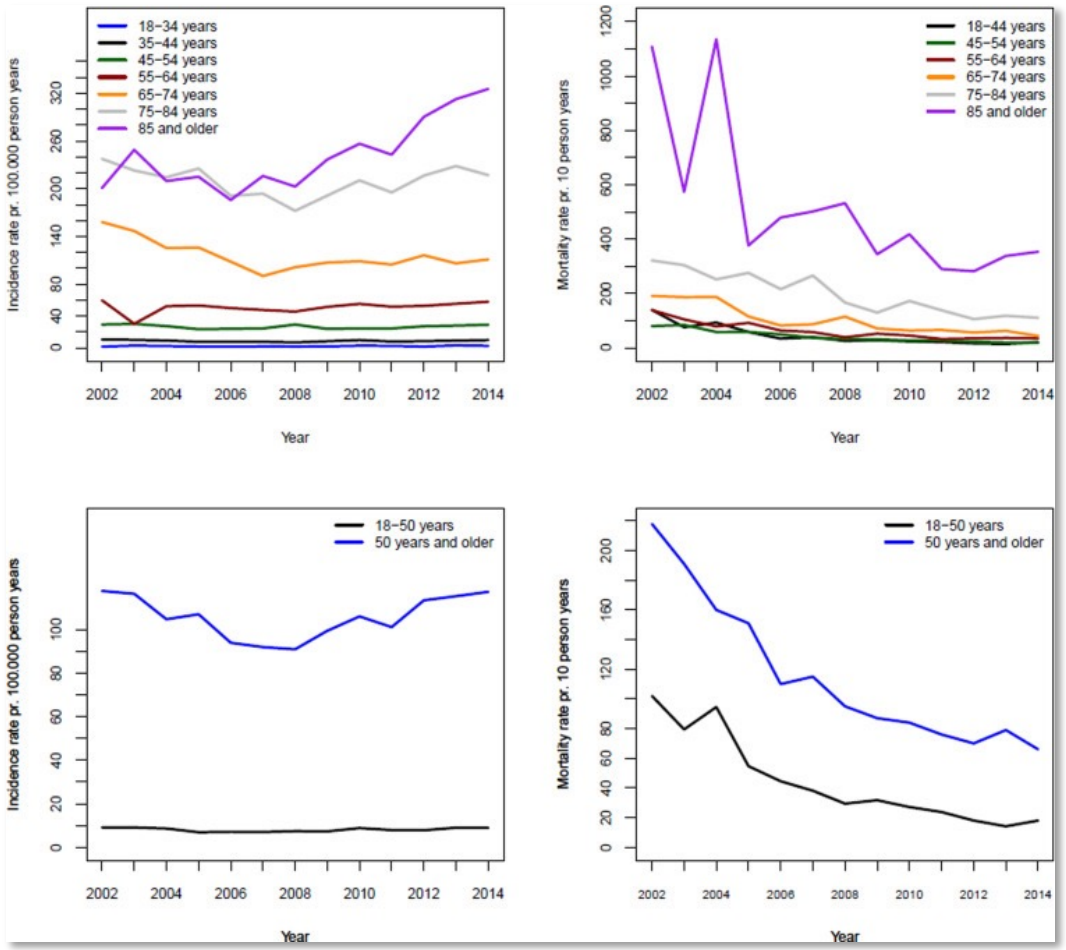
Background: The general cardiovascular health has improved throughout the last few decades for middle-aged and older individuals, but the incidence of several cardiovascular diseases is reported to increase in younger people. We aimed to assess the age-specific incidence and mortality rates associated with out-of-hospital-cardiac-arrest (OHCA) between 2002 and 2014.

Methods: We used the Danish Cardiac Arrest Register to identify patients with OHCA of presumed cardiac etiology. We calculated the annual incidence rates (IR) and 30-day mortality rates (MR) in 7 age groups (18–34 years, 35–44 years, 45–54 years, 55–64 years, 65–74 years, 75–84 years and ≥85 years, and ≤50 vs. >50 years).

Results: Between 2002 and 2014, IR of OHCA decreased in individuals aged 65–74 and 75–84 years (158.08 to 111.2 and 237.5 to 217.09 per 100,000 person-years) and increased in the oldest from 201.01 to 325.4 pr. 100.000 person-years. In 18–34-years incidence of OHCA increased from 1.7 to 2.6 per 100.000 person-years. When stratifying into age ≤50 vs. >50 years, the IR deviated in those >50 years (from 117.8 in 2002 to 91 in 2008 to 117.4 in 2014100,000 person-years). The prevalence of acute myocardial infarction and heart failure prior to OHCA increased in the younger patient group in contrast to the older segment (AMI: ≤50 years: 10% to 16%, vs. >50 years: 25% to 23%, heart failure: ≤50 years 6% to 14%, vs. >50 years: 21% to 24%).

Conclusion: Over the last decades, incidence rates of OHCA decreased in individuals aged 65–84, but increased in individuals older than 85. An increase was also observed in younger individuals, potentially indicating a need for better cardiovascular disease prevention in younger adults.

Keywords: Age, Cardiac arrest, Sudden death, Epidemiology



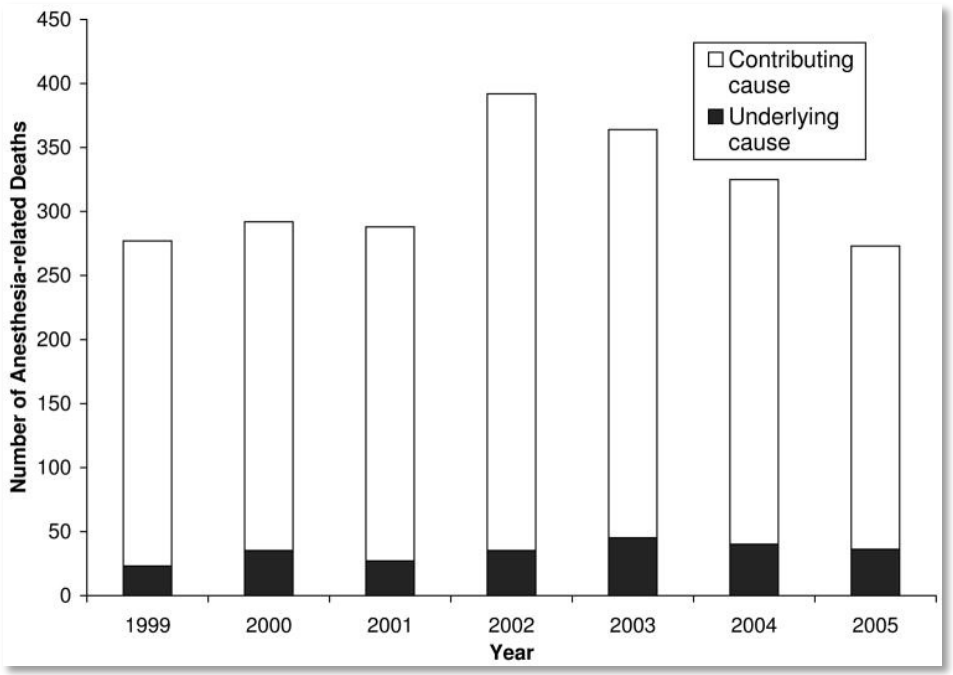
Upper left panel: OHCA incidence rates *Upper right panel*: Post-OHCA mortality rates *Lower left panel*: Incidence rate of OHCA. *Lower right panel*: Post OHCA mortality rates in patients ≤ 50 years of age

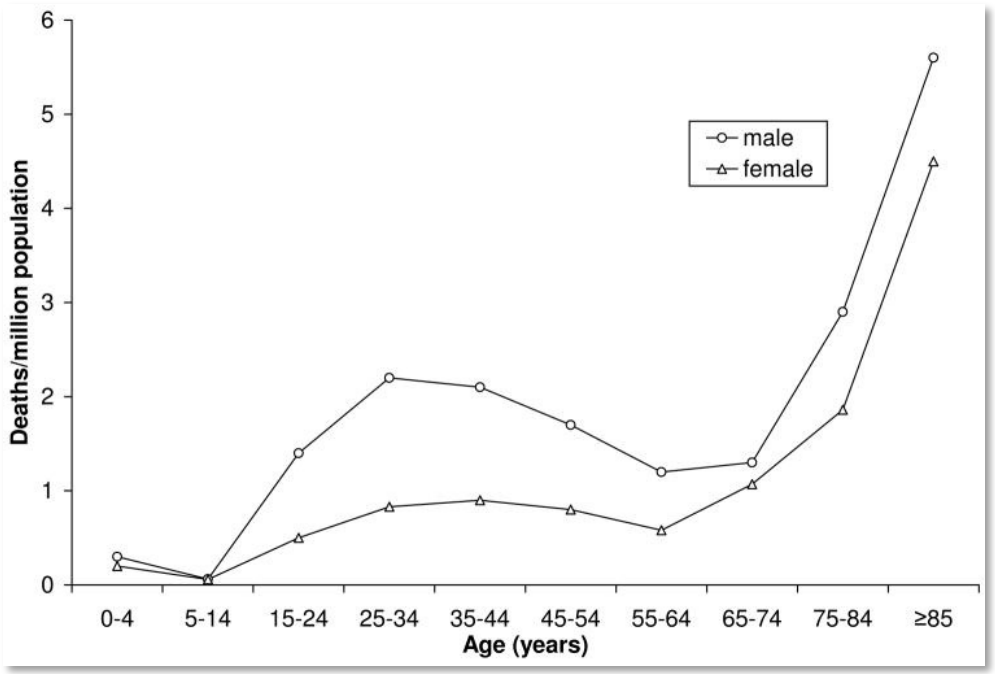
Anestesi til kirurgi

Anesthesiology 2009; 110:759–65

Epidemiology of Anesthesia-related Mortality in the United States, 1999–2005

Guohua Li, M.D., Dr.P.H., Margaret Warner, Ph.D.,† Barbara H. Lang, B.S.,‡ Lin Huang, M.S.,§ Lena S. Sun, M.D.‖*





Anesthesiology 2006; 105:1087–97

Survey of Anesthesia-related Mortality in France

André Lienhart, M.D., Yves Auroy, M.D.,† Françoise Péquignot,‡ Dan Benhamou, M.D.,§ Josiane Warszawski, Ph.D., M.D.,‖ Martine Bovet,# Eric Jougla, Ph.D.***

Table 2. Rates of Deaths Totally or Partially Related to Anesthesia According to Age and ASA Physical Status

	Mortality Rate per 100,000 Anesthetic Procedures	95% Confidence Interval
Age		
0–7 yr	0.60	0.12–3.2
8–15 yr	1.20	0.30–3.2
16–39 yr	0.52	0.24–0.93
40–74 yr	5.20	2.7–8.1
≥ 75 yr	21.00	8.3–34.0
ASA physical status		
I	0.40	0.12–0.81
II	5.0	1.6–9.1
III	27.0	12.0–44.0
IV	55.0	1.1–130.0

ASA = American Society of Anesthesiologists.

ANESTHESIOLOGY

The Evolution, Current Value, and Future of the American Society of Anesthesiologists Physical Status Classification System

Balazs Horvath, M.D., F.A.S.A., Benjamin Kloesel, M.D., M.S.B.S., Michael M. Todd, M.D., Daniel J. Cole, M.D., F.A.S.A., Richard C. Prielipp, M.D., M.B.A., F.C.C.M.

ANESTHESIOLOGY 2021; 135:904–19

ABSTRACT

The American Society of Anesthesiologists (ASA) Physical Status classification system celebrates its 80th anniversary in 2021. Its simplicity represents its greatest strength as well as a limitation in a world of comprehensive multisystem tools. It was developed for statistical purposes and not as a surgical risk predictor. However, since it correlates well with multiple outcomes, it is widely used—appropriately or not—for risk prediction and many other purposes. It is timely to review the history and development of the system. The authors describe the controversies surrounding the ASA Physical Status classification, including the problems of interrater reliability and its limitations as a risk predictor. Last, the authors reflect on the current status and potential future of the ASA Physical Status system.

(ANESTHESIOLOGY 2021; 135:904–19)

ASA Physical Status Classification	Definition	Adult Examples, Including, but Not Limited to, the Following:	Pediatric Examples, Including, but Not Limited to, the Following:	Obstetric Examples, Including, but Not Limited to the Following:
I	A normal healthy patient.	Healthy, nonsmoking, no or minimal alcohol use.	Healthy (no acute or chronic disease), normal body mass index percentile for age.	
II	A patient with mild systemic disease.	Mild diseases only without substantive functional limitations. Current smoker, social alcohol drinker, pregnancy, obesity (30 < body mass index < 40), well-controlled diabetes mellitus/ hypertension, mild lung disease.	Asymptomatic congenital cardiac disease, well-controlled dysrhythmias, asthma without exacerbation, well-controlled epilepsy, non–insulin-dependent diabetes mellitus, abnormal body mass index percentile for age, mild/moderate OSA, oncologic state in remission, autism with mild limitations.	Normal pregnancy,* well-controlled gestational hypertension, controlled pre-eclampsia without severe features, diet-controlled gestational diabetes mellitus.
III	A patient with severe systemic disease.	Substantive functional limitations; one or more moderate to severe diseases. Poorly controlled diabetes mellitus or hypertension, COPD, morbid obesity (body mass index ≥ 40), active hepatitis, alcohol dependence or abuse, implanted pacemaker, moderate reduction of ejection fraction, end-stage renal disease undergoing regularly scheduled dialysis, history (> 3 months) of MI, cerebral vascular accident, transient ischemic attack, or coronary artery disease/ stents.	Uncorrected stable congenital cardiac abnormality, asthma with exacerbation, poorly controlled epilepsy, insulin-dependent diabetes mellitus, morbid obesity, malnutrition, severe OSA, oncologic state, renal failure, muscular dystrophy, cystic fibrosis, history of organ transplantation, brain/spinal cord malformation, symptomatic hydrocephalus, premature infant PCA <60 weeks, autism with severe limitations, metabolic disease, difficult airway, long-term parenteral nutrition. Full-term infants < 6 weeks of age.	Pre-eclampsia with severe features, gestational diabetes mellitus with complications or high insulin requirements, a thrombophilic disease requiring anticoagulation.
IV	A patient with severe systemic disease that is a constant threat to life.	Recent (< 3 months) MI, cerebral vascular accident, transient ischemic attack, or coronary artery disease/ stents, ongoing cardiac ischemia or severe valve dysfunction, severe reduction of ejection fraction, shock, sepsis, DIC, acute respiratory distress syndrome, or end-stage renal disease not undergoing regularly scheduled dialysis.	Symptomatic congenital cardiac abnormality, congestive heart failure, active sequelae of prematurity, acute hypoxic–ischemic encephalopathy, shock, sepsis, disseminated intravascular coagulation, automatic implantable cardioverter–defibrillator, ventilator dependence, endocrinopathy, severe trauma, severe respiratory distress, advanced oncologic state.	Preeclampsia with severe features complicated by syndrome of hemolysis, elevated liver enzymes, and low platelet count or other adverse event, peripartum cardiomyopathy with ejection fraction < 40, uncorrected/ decompensated heart disease, acquired or congenital.
V	A moribund patient who is not expected to survive without the operation.	Ruptured abdominal/thoracic aneurysm, massive trauma, intracranial bleed with mass effect, ischemic bowel in the face of significant cardiac pathology or multiple organ/system dysfunction.	Massive trauma, intracranial hemorrhage with mass effect, patient requiring ECMO, respiratory failure or arrest, malignant hypertension, decompensated congestive heart failure, hepatic encephalopathy, ischemic bowel or multiple organ/system dysfunction.	Uterine rupture.
VI	A declared brain-dead patient whose organs are being removed for donor purposes.			

The addition of "E" denotes emergency surgery (an emergency is defined as existing when delay in treatment of the patient would lead to a significant increase in the threat to life or body part).

* Although pregnancy is not a disease, the parturient's physiologic state is significantly altered from when the woman is not pregnant, hence the assignment of ASA Physical Status II for a woman with uncomplicated pregnancy.

ASA, American Society of Anesthesiologists; COPD, chronic obstructive pulmonary disease; DIC, disseminated intravascular coagulation; ECMO, extracorporeal membrane oxygenation; MI, myocardial infarction; OSA, obstructive sleep apnea; PCA, patient-controlled analgesia.

JAMA Surgery | Original Investigation

Association of Preoperative Patient Frailty and Operative Stress With Postoperative Mortality

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IMPORTANCE Patients with frailty have higher risk for postoperative mortality and complications; however, most research has focused on small groups of high-risk procedures. The associations among frailty, operative stress, and mortality are poorly understood.

OBJECTIVE To assess the association between frailty and mortality at varying levels of operative stress as measured by the Operative Stress Score, a novel measure created for this study.

DESIGN, SETTING, AND PARTICIPANTS This retrospective cohort study included veterans in the Veterans Administration Surgical Quality Improvement Program from April 1, 2010, through March 31, 2014, who underwent a noncardiac surgical procedure at Veterans Health Administration Hospitals and had information available on vital status (whether the patient was alive or deceased) at 1 year postoperatively. A Delphi consensus method was used to stratify surgical procedures into 5 categories of physiologic stress.

EXPOSURES Frailty as measured by the Risk Analysis Index and operative stress as measured by the Operative Stress Score.

MAIN OUTCOMES AND MEASURES Postoperative mortality at 30, 90, and 180 days.

RESULTS Of 432 828 unique patients (401 453 males [92.8%]; mean (SD) age, 61.0 [12.9] years), 36 579 (8.5%) were frail and 9113 (2.1%) were very frail. The 30-day mortality rate among patients who were frail and underwent the lowest-stress surgical procedures (eg, cystoscopy) was 1.55% (95% CI, 1.20%-1.97%) and among patients with frailty who underwent the moderate-stress surgical procedures (eg, laparoscopic cholecystectomy) was 5.13% (95% CI, 4.79%-5.48%); these rates exceeded the 1% mortality rate often used to define high-risk surgery. Among patients who were very frail, 30-day mortality rates were higher after the lowest-stress surgical procedures (10.34%; 95% CI, 7.73%-13.48%) and after the moderate-stress surgical procedures (18.74%; 95% CI, 17.72%-19.80%). For patients who were frail and very frail, mortality continued to increase at 90 and 180 days, reaching 43.00% (95% CI, 41.69%-44.32%) for very frail patients at 180 days after moderate-stress surgical procedures.

CONCLUSIONS AND RELEVANCE We developed a novel operative stress score to quantify physiologic stress for surgical procedures. Patients who were frail and very frail had high rates of postoperative mortality across all levels of the Operative Stress Score. These findings suggest that frailty screening should be applied universally because low- and moderate-stress procedures may be high risk among patients who are frail.

Invited Co

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Clinical Frailty Scale*

1 **Very Fit** – People who are robust, active, energetic and motivated. These people commonly exercise regularly. They are among the fittest for their age.

2 **Well** – People who have **no active disease symptoms** but are less fit than category 1. Often, they exercise or are very **active occasionally**, e.g. seasonally.

3 **Managing Well** – People whose **medical problems are well controlled,** but are **not regularly active** beyond routine walking.

4 **Vulnerable** – While **not dependent** on others for daily help, often **symptoms limit activities.** A common complaint is being "slowed up", and/or being tired during the day.

5 **Mildly Frail** – These people often have **more evident slowing,** and need help in **high order IADLs** (finances, transportation, heavy housework, medications). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework.

6 **Moderately Frail** – People need help with **all outside activities** and with **keeping house**. Inside, they often have problems with stairs and need **help with bathing** and might need minimal assistance (cuing, standby) with dressing.

7 **Severely Frail** – **Completely dependent for personal care**, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~ 6 months).

8 **Very Severely Frail** – Completely dependent, approaching the end of life. Typically, they could not recover even from a minor illness.

9. **Terminally Ill** - Approaching the end of life. This category applies to people with **a life expectancy <6 months**, who are **not otherwise evidently frail.**

Scoring frailty in people with dementia

The degree of frailty corresponds to the degree of dementia. Common **symptoms in mild dementia** include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.

In **moderate dementia**, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting.

In **severe dementia**, they cannot do personal care without help.

* 1. Canadian Study on Health & Aging, Revised 2008.
2. K. Rockwood et al. A global clinical measure of fitness and frailty in elderly people. CMAJ 2005;173:489-495.

DALHOUSIE UNIVERSITY *Inspiring Minds*

Key Points

Question Is frailty associated with increased risk of postoperative mortality across all levels of operative stress?

Findings In this cohort study of 432 828 unique patients, frailty was associated with increased 30-, 90-, and 180-day mortality across all levels of operative stress. Mortality among patients with frailty after low- and moderate-stress procedures was substantially higher than mortality rates usually associated with high-risk surgical procedures.

Meaning The findings suggest that even minor surgical procedures are associated with high risk for patients with frailty and that surgeons and referring physicians should consider whether the potential benefits of surgery warrant the increased risk.

Intensivbehandling

VIPSTUDY.ORG

Current VIP study: the COVIP study

Corona Virus disease (COVID19) in Very Elderly Intensive care Patients (VIPs).
The COVIP-study is a multinational, prospective, observational study.
Please see the COVIP page for information.

376 ICUs registered

(Updated: 08-09-2021 00:07)

44 countries participating

(Updated: 08-09-2021 00:07)

3957 patients documented

(Updated: 08-09-2021 00:07)

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View on ClinicalTrials.gov

Endorsed by ESICM (European Society of Intensive Care Medicine)

Intensive Care Med (2017) 43:1820–1828
DOI 10.1007/s00134-017-4940-8

ORIGINAL

The impact of frailty on ICU and 30-day mortality and the level of care in very elderly patients (≥ 80 years)

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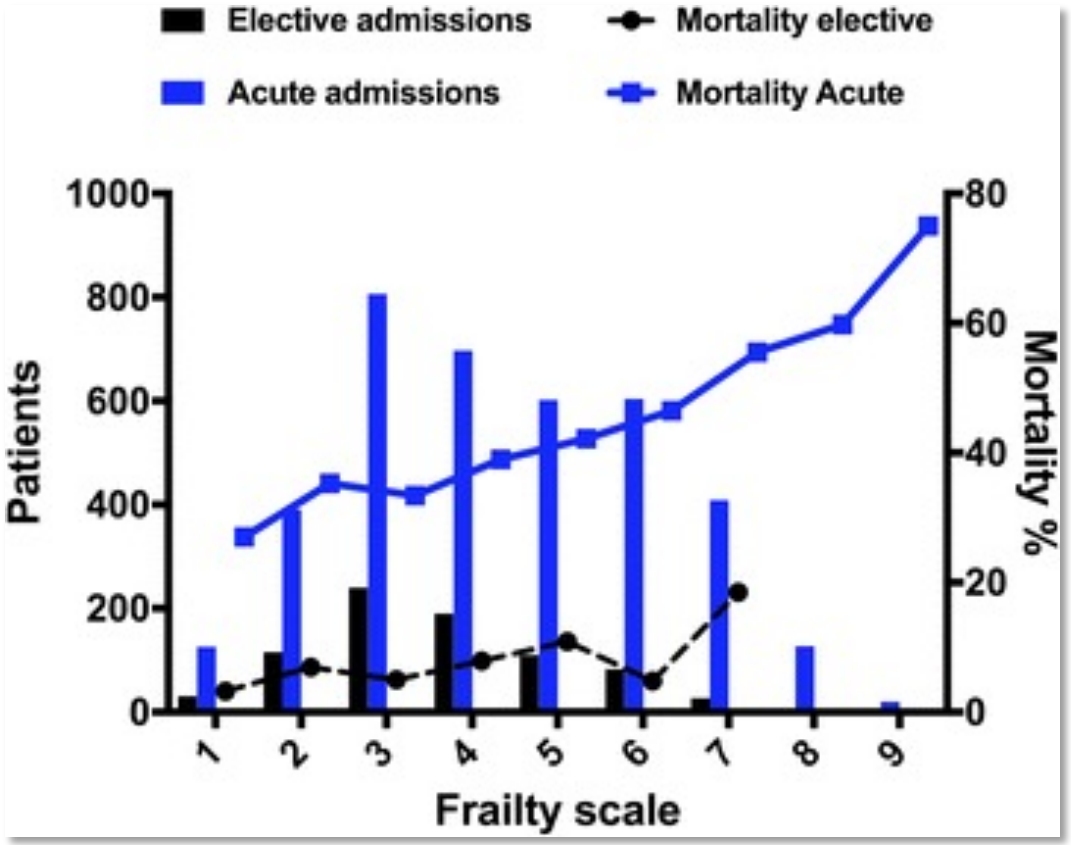
Along with the increase in life expectancy of the general population, the age of critically ill patients increases. The proportion of very elderly ICU patients exceeds 10% in many countries. However, the survival of this very old age group is rather poor [4, 5, 9]. One of the important



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Brief Report | Open Access

Cumulative Prognostic Score Predicting Mortality in Patients Older Than 80 Years Admitted to the ICU

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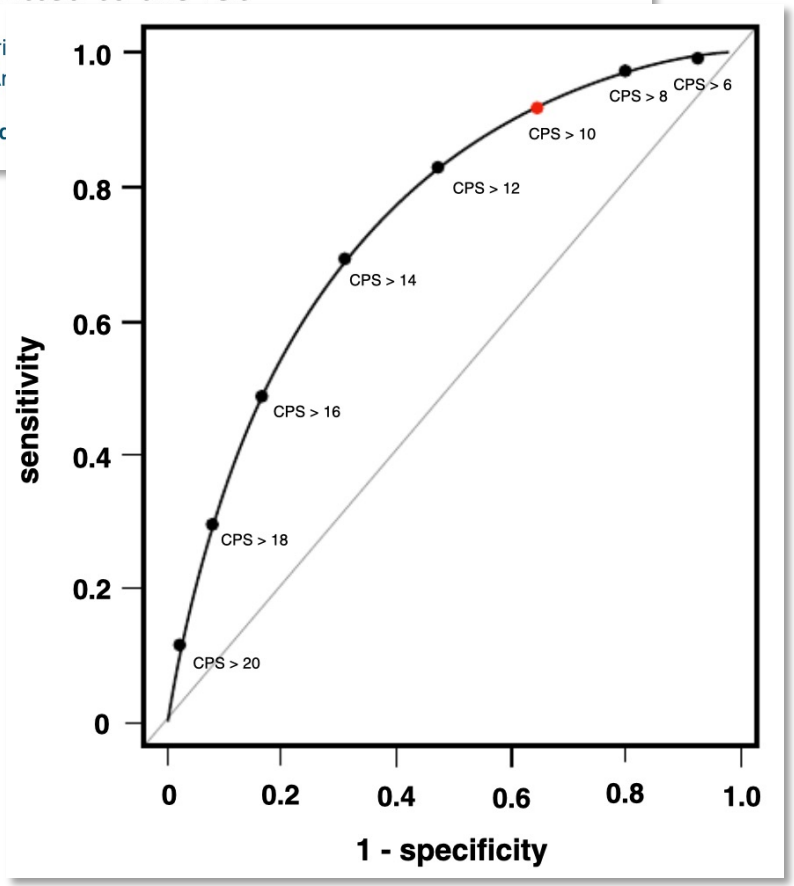

Table 2. Final Multivariable Regression Model

Covariate	Odds ratio 30-day mortality
Age	1.05 (1.03-1.07)
Sex, male	1.26 (1.09-1.47)
Mechanical ventilation	2.07 (1.72-2.50)
RRT	1.70 (1.33-2.18)
CFS	1.19 (1.14-1.25)
SOFA score	
<4	Reference
≥4 and <7	1.80 (1.37-2.37)
≥7 and <10	2.70 (2.02-3.60)
≥10	4.40 (3.26-5.92)
Reason for ICU admission	
Respiratory failure	3.58 (.73-17.48)
Circulatory failure	3.74 (.76-18.39)
Respiratory and circulatory failure	4.55 (.92-22.43)
Sepsis	3.20 (.65-15.77)
Multi-trauma without head injury	3.62 (.66-19.77)
Multi-trauma with head injury	5.06 (.94-27.23)
Isolated head Injury	4.30 (.84-22.09)
Intoxication	Reference
Nontrauma CNS causes	5.45 (1.10-27.01)
Emergency surgery	1.87 (.38-9.27)
Other	2.0 (.40-9.88)

Abbreviations: CFS, Clinical Frailty Scale; CNS, central nervous system; ICU, intensive care unit; RRT, renal replacement therapy; SOFA, Sequential Organ Failure Assessment.

CLINICAL INVESTIGATION

acta Anaesthesiologica Scandinavica

Frailty and survival in elderly intensive care patients in Norway

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Background: Today, 10%-15% of Norwegian intensive care patients are ≥80 years. This proportion will increase significantly over the next 20 years, but it is unlikely that resources for intensive care increase correspondingly. Thus, it is important to establish which patients among elderly people will benefit from intensive care. The main objective of the study was to investigate the relationships between geriatric scoring tools and 30-day mortality.

Methods: The study included 451 Norwegian patients ≥80 years who were included in two prospective European observation studies (VIP (very old intensive care patient)1 of VIP2). Both studies included clinical frailty scale (CFS) while VIP2 also obtained the geriatric scores, comorbidity and polypharmacy score (CPS), Short Form of Informant Questionnaire on Cognitive Decline in the Elderly (IQCODE), and Katz Activity of Daily Living score (Katz ADL).

Results: Survival after 30 days was 59.9%. Risk factors for 30-day mortality were increasing Sequential Organ Failure Assessment (SOFA) score (odds ratio (OR) 1.30; confidence interval (CI) 95% 1.22-1.39) and (CFS) > 3 (CFS 4: OR 1.96 (CI 95% 1.01-3.81); CFS 5-9: OR 1.81 (CI) 95% 1.12-2.93)). Data from VIP2 showed that CFS was the only independent predictor of 30-day mortality when these scores were tested in multivariate analyses separately together with age, SOFA, and gender (OR 1.21 (95% CI 1.03-1.41)).

Conclusions: Elderly intensive care patients had a 30-day survival rate of 59.9%. Factors strongly associated with 30-day mortality were increasing SOFA score and increasing frailty (CFS). Other geriatric scores had no significant association with survival in multivariate analyses.

Oppsummering

- Forekomsten av OHCA øker blandt de aller eldste
- Utkomme etter OHCA bedres for alle, også de aller eldste, men er mye dårligere jo eldre man er
- Dødsfall ifb med kirurgi er multifaktorielle (pasient, type kirurgi, type anestesi; beregnelige vs ikke-beregnelige bivirkninger)
- Høyere alder og høyere ASA-skår gir økt risiko ved anestesi/operasjoner
- Det er klar assosiasjon mellom frailty og utkomme ved kirurgi; men det er ennå noe uklart hvordan frailty korrelerer med alder og ASA-skår
- *VIP study-group* studerer eldre intensivpasienter (> 80 år) i Europa
- Hos eldre intensivpasienter er det en klar sammenheng mellom frailty og økt mortalitet
- Stadig flere eldre intensivpasienter behandles (10-20%) og overall mortaliet hos eldre intensivpasienter er betydelig høyere enn hos andre på 30 – 40 %