

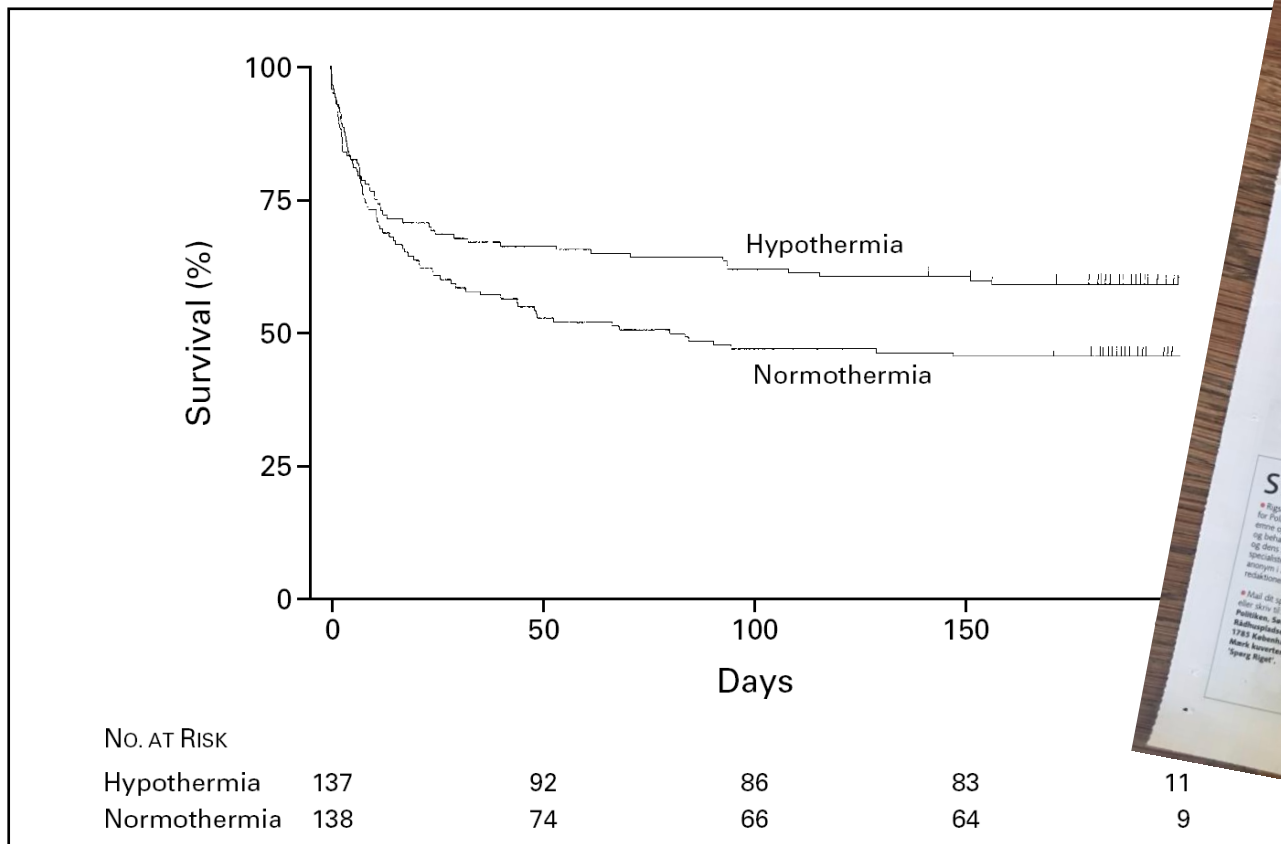
# **In-hospital behandling af genoplivede OHCA**

Christian Hassager



# 2002

## Ny behandling – kølebehandling (TTM)

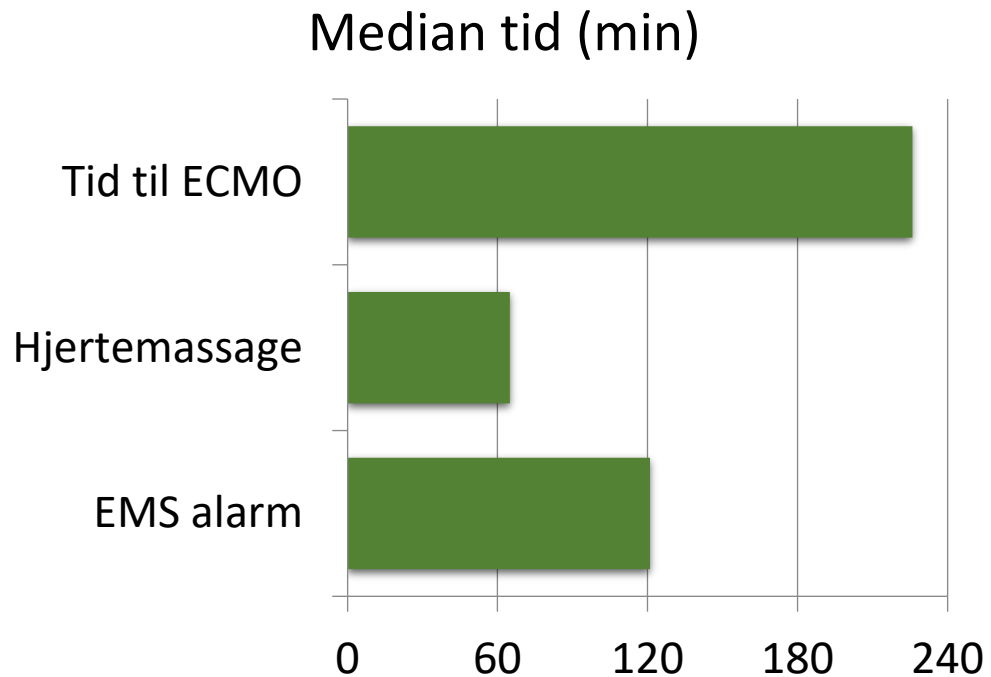


HACA group. N Engl J Med 2002;346:549-56



# Nedkøling virker - 2012

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Når man er kold før hjertestoppet indtræder



# Inhospital behandling

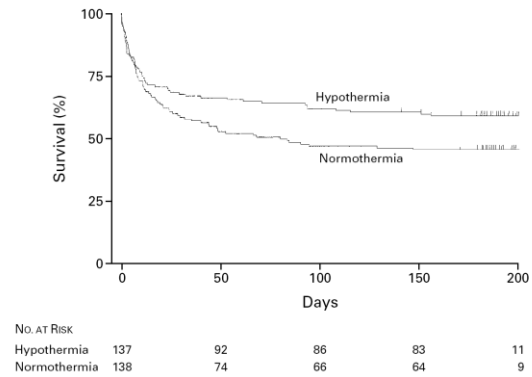
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1 TTM

2 Akut koronararteriografi

3 Alm ITA-behandling og prognostisering

# No further discussion?



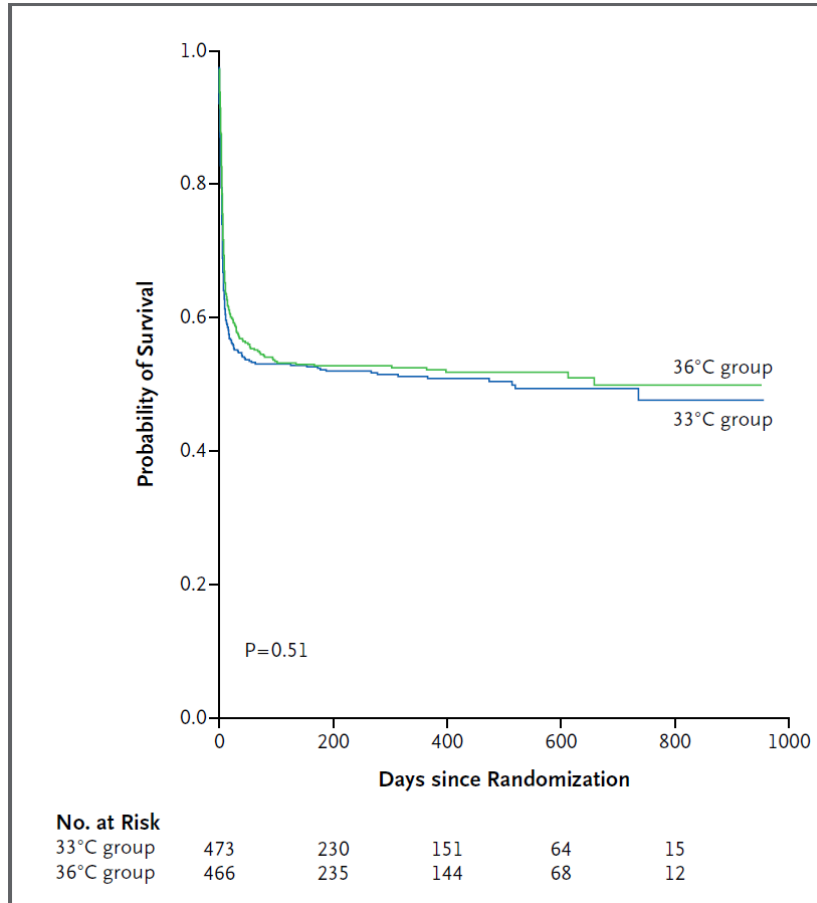
- Not blinded study
- Stopped early



VS



# Primary endpoint: Mortality

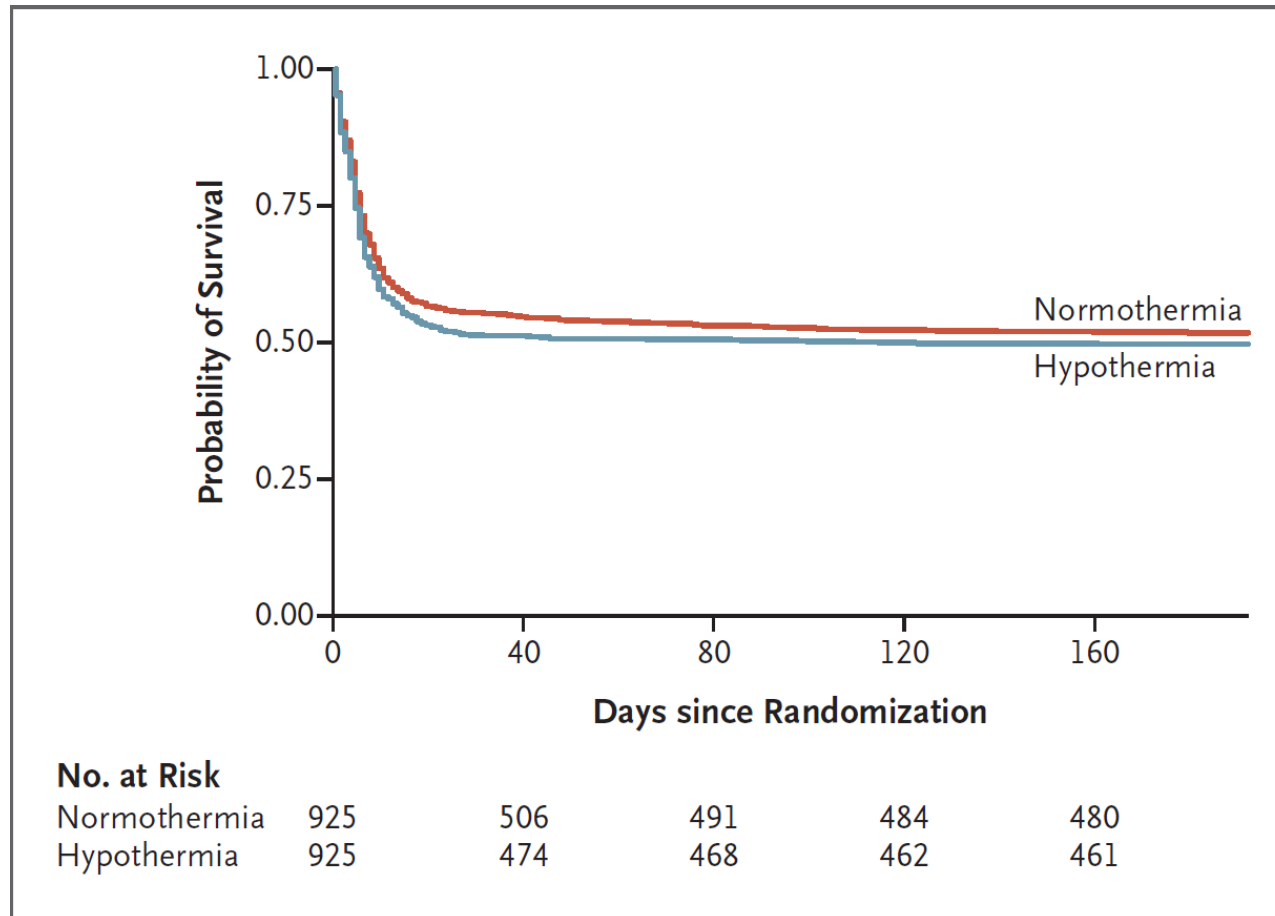


- **CPC 3-5**  
54% vs 52% RR=1.02 (0.88-1.16)
- **mRS 4-6**  
52% vs 52% RR=1.01 (0.89-1.14)

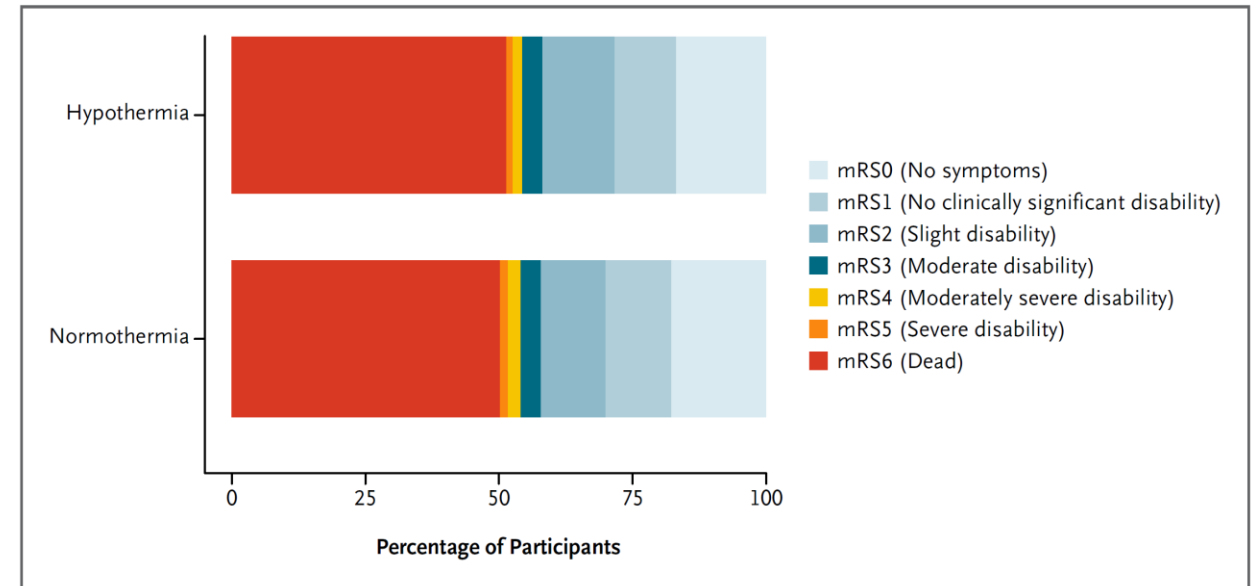
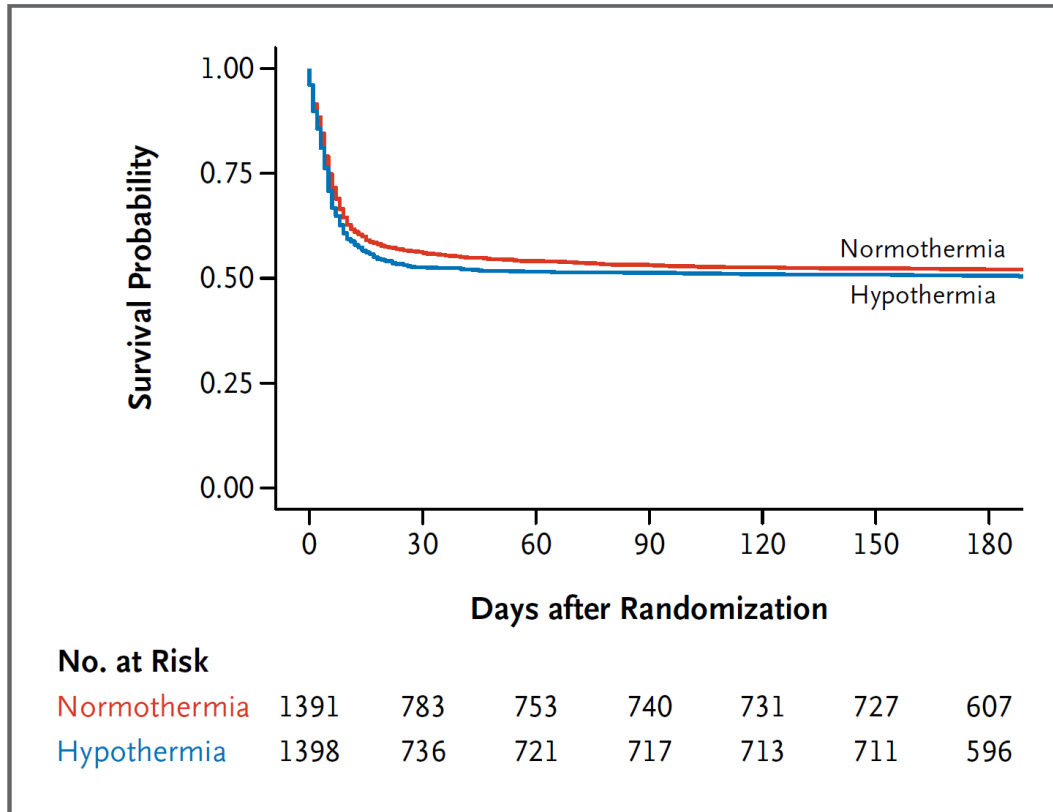
*Nielsen N et al. N Engl J Med 369:2197-2206;2013*

# Hypothermia versus Normothermia after Out-of-Hospital Cardiac Arrest

1850 OHCA  
33C vs 37.5C



# TTM and TTM2 combined





# Hypothermia may not work....

- During Surgery for Intracranial Aneurysm
- After acute brain injury
- After a stroke
- In severe bacterial meningitis
- Status Epilepticus
- Sepsis

*Todd MM et al. New Engl J Med 2005;352:135-45*

*Adelson PD et al. Lancet Neurol 2013;12:546–53*

*Andrews PJD et al. N Engl J Med 2015;373:2403-12*

*Wu TC and Grotta JC. Lancet Neurol. 2013;12:275-84*

*Mourvillier B et al. JAMA 2013; 310:2174-83*

*Legriel S et al. N Engl J Med 2016;375:2457-67*

*Itenov TS et al. Lancet Respir Med 2018, in press*

# Et hattrick i 2022

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

## Oxygen Targets in Comatose Survivors of Cardiac Arrest

H. Schmidt, J. Kjaergaard, C. Hassager, L.E. Roelsgaard Obling, S. Venø, L. S. Frydland, B. Nyholm, D.E. Høfsten, J. Josiassen, J.H. Thomsen, M.A. Stengaard Meyer, M. Winther-Jensen, R. Frikke-Schmidt, S. Wiberg, S. Boesgaard, S.A. Madsen, V.L. Jørgensen, and C. Hassager

ORIGINAL ARTICLE

## Duration of Device-Based Fever Prevention after Cardiac Arrest

Christian Hassager, M.D., D.M.Sc., Henrik Schmidt, M.D., D.M.Sc., Jacob E. Møller, M.D., D.M.Sc., Johannes Grand, M.D., Ph.D., Simon Mølstrøm, M.D., Rasmus P. Beske, M.D., Søren Boesgaard, M.D., D.M.Sc., Ditte Bekker-Jensen, R.N., M.Sc., Martin S. Frydland, M.D., Ph.D., Stefan A. Isse, B.Sc., Jakob Josiassen, M.D., Ph.D., Daniel Kondziella, M.D., Ph.D., Emil Moser, M.D., Benjamin C. Nyholm, M.D., Laura Sarkisian, M.D., Ph.D., Jakob H. Thomsen, M.D., Ph.D., S. Venø, M.D., Sebastian C. Wiberg, M.D., Ph.D., J. Kjaergaard, M.D., D.M.Sc.

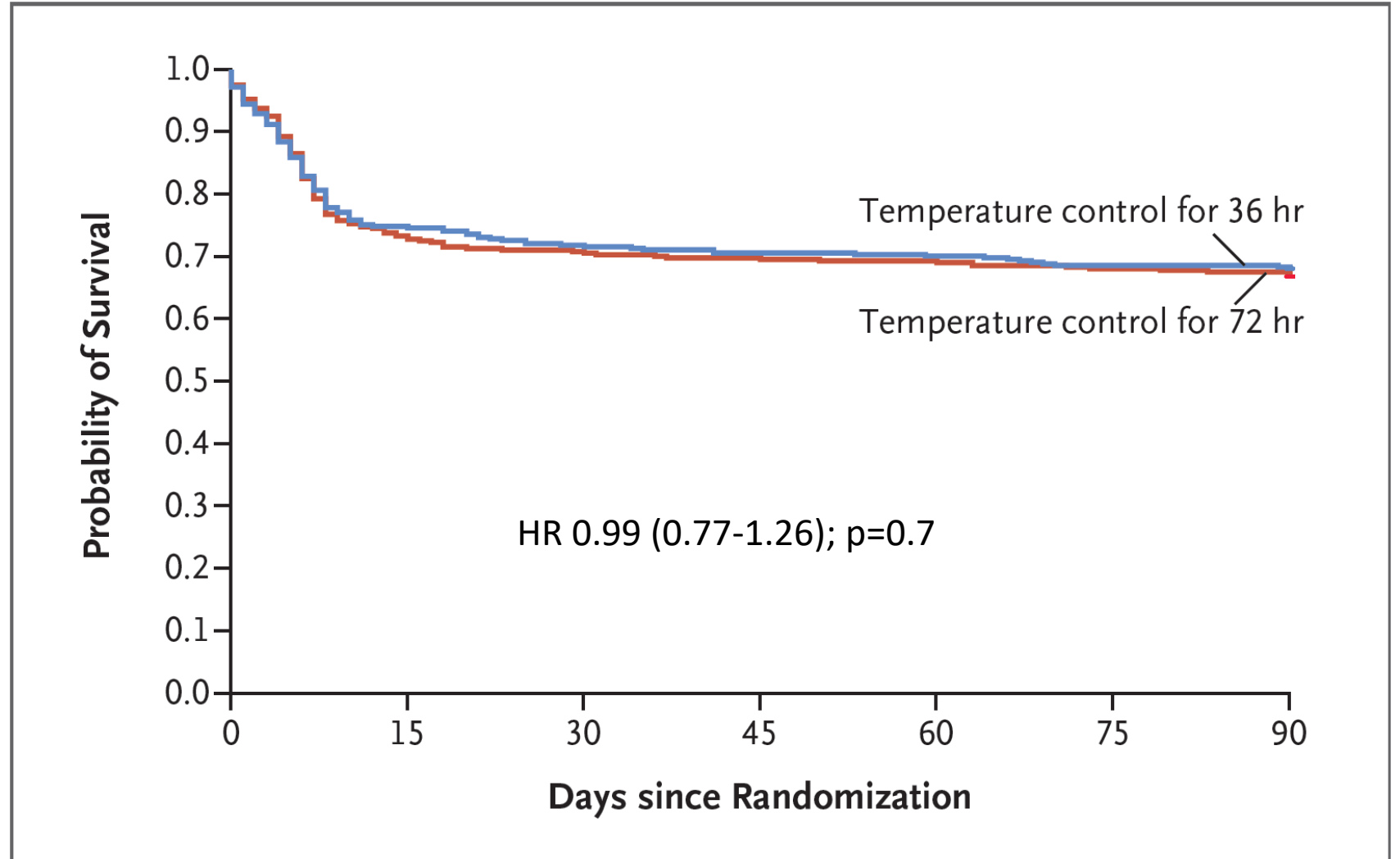
ORIGINAL ARTICLE

## Blood-Pressure Targets in Comatose Survivors of Cardiac Arrest

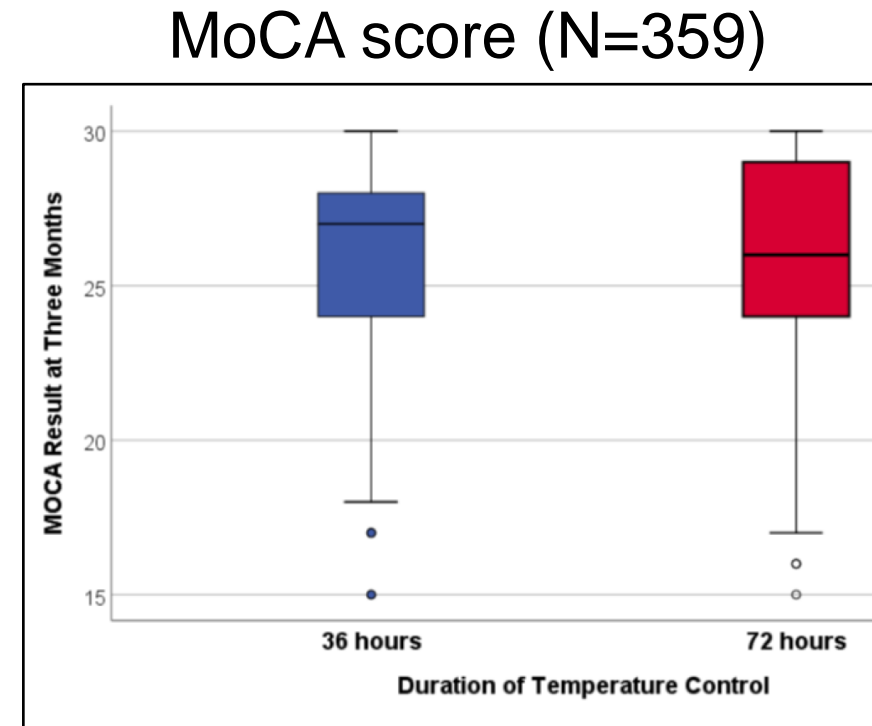
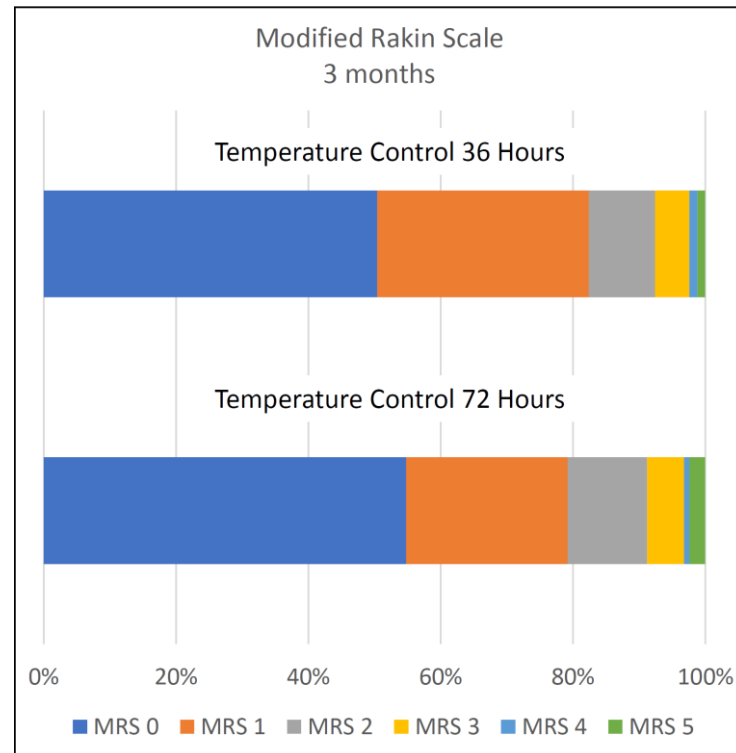
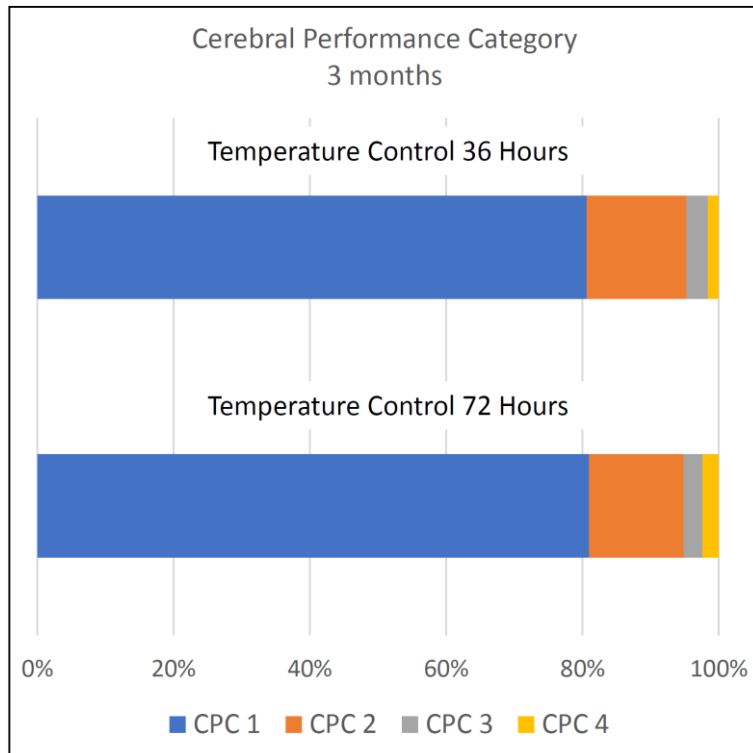
J. Kjaergaard, J.E. Møller, H. Schmidt, J. Grand, S. Mølstrøm, B. Borregaard, S. Venø, L. Sarkisian, D. Mamaev, L.O. Jensen, B. Nyholm, D.E. Høfsten, J. Josiassen, J.H. Thomsen, J.J. Thune, L.E.R. Obling, M.G. Lindholm, M. Frydland, M.A.S. Meyer, M. Winther-Jensen, R.P. Beske, R. Frikke-Schmidt, S. Wiberg, S. Boesgaard, S.A. Madsen, V.L. Jørgensen, and C. Hassager

# Primary endpoint

CPC of 3 or 4 at hospital discharge or death within 90 days



# CPC, mRS and MoCA score at 3 months in survivors



# TTM 2023

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- 1 Hypotermi behøves ikke mere – måske godt at undgå feber
- 2 36 h er nok
- 3 Nyt 'endeligt' studie er på vej til helt at afskaffe TTM

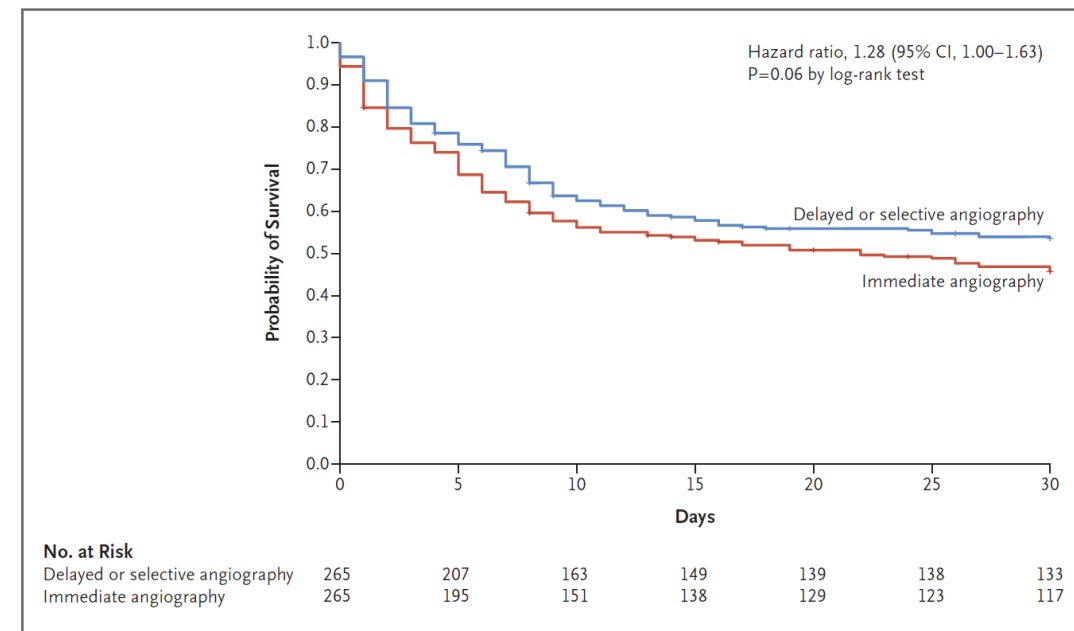
# Akut koronararteriografi

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

## Angiography after Out-of-Hospital Cardiac Arrest without ST-Segment Elevation

S. Desch, A. Freund, I. Akin, M. Behnes, M.R. Preusch, T.A. Zelniker, C. Skurk, U. Landmesser, T. Graf, I. Eitel, G. Fuernau, H. Haake, P. Nordbeck, F. Hammer, S.B. Felix, C. Hassager, T. Engstrøm, S. Fichtlscherer, J. Ledwoch, K. Lenk, M. Joner, S. Steiner, C. Liebetrau, I. Voigt, U. Zeymer, M. Brand, R. Schmitz, J. Horstkotte, C. Jacobshagen, J. Pöss, M. Abdel-Wahab, P. Lurz, A. Jobs, S. de Waha-Thiele, D. Olbrich, F. Sandig, I.R. König, S. Brett, M. Vens, K. Klinge, and H. Thiele, for the TOMAHAWK Investigators\*



# Akut KAG ve OHCA 2023

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- 1 Akut ved STEMI (ingen randomiserede studier)
- 2 Ikke ved NSTEMI
- 3 Et endnu større studie er på vej (DISCO)

# Inhospital behandling af OHCA

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- 1 Undgå feber de første 36 timer
- 2 Akut KAG ved STEMI eller hvis patienten er udstabil
- 3 Standart intensiv behandling (BT, O2, CO2, væske, antibiotika efter behov)
- 4 Holde ud i mindst 3-5 dage
- 5 Prognosticere: Biokemi (NSE), EEG, CTC/MRI, SSEP, klinik
- 6 Forskning!