Between Guidelines and Clinical Practice

A Bridge Too Far?

Trefor Morgan

University of Melbourne
An historic telling of the failed attempt to capture several bridges on a road to Germany in World War II, in a campaign called Operation Market-Garden.

**Director:**

Richard Attenborough
A Bridge Too Far (1977)
175 min - Drama | History | War -
15 June 1977 (USA)

An historic telling of the failed attempt to capture several bridges on a road to Germany in World War II, in a campaign called Operation Market-Garden.

Director:
Richard Attenborough

Writers:
Cornelius Ryan (book), William Goldman (screenplay)

Stars:
Sean Connery, Ryan O'Neal, Michael Caine

See full cast and crew
GUIDELINES

Guidelines should be what they say.

Guidelines!
GUIDELINES

Guidelines should be what they say. Guidelines! Governments, lawyers, the courts and others want them to be more. They wish them to be prescriptive.
GUIDELINES

BASED ON EVIDENCE
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Guidelines based on Large Randomized Trials.

Due attention to pathophysiological, pharmacological, epidemiological and other studies of appropriate scientific calibre.
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Due attention to pathophysiologica, pharmacological, epidemiological and other studies of appropriate scientific calibre.

_Guisepppe Mancia has been meticulous in following these principles._
GUIDELINES

THE IDEAL?
GUIDELINES

THE IDEAL?

How do we restore outcome to that of a normotensive person!
GUIDELINES

THE IDEAL?

How do we restore outcome to that of a normotensive person!

These would probably be the same throughout the world.
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Evidence Based Medicine Has Lead to Guidelines

Other Considerations such as cost, ability of a country to afford therapy now come into play.
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Thus we Could have Universal Guidelines.

Supported by Policy statements for Individual Countries
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Guidelines alter as new evidence comes in.

For Hypertension: Guidelines frequently use concept of absolute risk.
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Drug Intervention Justifiable when 5 year event rate is 10%

ie 2% / year

Or Some other Arbitrary Figure
GUIDELINES

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How was this value decided. Cost to save a life? Number of people to be treated to save a life?
GUIDELINES

Drug Intervention Justifiable when 5 year event rate is 10%

ie 2%/year

Or Some other Arbitrary Figure.

This requires use of other investigations to determine outcome
The Individual

From some guidelines if BP is 175/100, you would not treat until they reach the age of 55 years.
LET US LOOK AT WHAT ELEVATED BP MEANS TO AN INDIVIDUAL
METROPOLITAN LIFE
INSURANCE DATA FROM
1950-1960
%REDUCTION in LIFE SPAN
Male 35

130/90
140/95
150/100
B.P.
EFFECT OF ELEVATED BP ON AN INDIVIDUAL

Age 35 y

Predicted remaining years of life 50 y

SBP 130 causes loss of 5 y
SBP 140 causes loss of 10 y
SBP 150 causes loss of 20 y

This is compared with 120/80


% REDUCTION in LIFE SPAN
Female 45

130/90  140/95  150/95
B.P.
EFFECT OF ELEVATED BP REDUCING YEARS OF LIFE

BP 140/95

Age 35 10 y
Age 45 8y
Age 55 7y
Age 65 4.5y
The Individual

The lifespan is reduced by 40% or 20 years and you will do nothing?
NICE GUIDELINES

Offer antihypertensive drug treatment to people aged under 80 years with stage 1 hypertension who have one or more of the following:

− target organ damage
− established cardiovascular disease
− renal disease
− diabetes

− a 10-year cardiovascular risk equivalent to 20% or greater.
GUIDELINES

Drug Intervention Justifiable when 5 year event rate is 10%

ie 2% / year

This is not stated as such in newer guidelines but is the basis of Risk Tables which are still used.
# Initiation of lifestyle changes and antihypertensive drug treatment

<table>
<thead>
<tr>
<th>Other risk factors, asymptomatic organ damage or disease</th>
<th>High normal SBP 130–139 or DBP 85–89</th>
<th>Grade 1 HT SBP 140–159 or DBP 90–99</th>
<th>Grade 2 HT SBP 160–179 or DBP 100–109</th>
<th>Grade 3 HT SBP ≥180 or DBP ≥110</th>
</tr>
</thead>
<tbody>
<tr>
<td>No other RF</td>
<td>• No BP intervention</td>
<td>• Lifestyle changes for several months Then add BP drugs targeting &lt;140/90</td>
<td>• Lifestyle changes for several weeks Then add BP drugs targeting &lt;140/90</td>
<td>• Lifestyle changes Immediate BP drugs targeting &lt;140/90</td>
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<tr>
<td>1–2 RF</td>
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<td>OD, CKD stage 3 or diabetes</td>
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<tr>
<td>Symptomatic CVD, CKD stage ≥4 or diabetes with OD/RFs</td>
<td>• Lifestyle changes No BP intervention</td>
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Summary

BP High Normal Lifestyle.

SBP > 140

or

DBP > 90

Life Style Followed by Drugs
### 2013 ESH/ESC Hypertension Guidelines

**Initiation of lifestyle changes and antihypertensive drug treatment**

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<th>Blood Pressure (mmHg)</th>
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GUIDELINES

Too Wordy
Too Long
Too Expensive
Irrelevant to Many Countries
Need Policy Statement for Individual Countries.
Money In This Region

Per Capita Income Range

$700 - $67,000

Per Capita health Expenditure Range

$23 - $5,900