The Management of Hypertension in Canada: The Sprint Factor

OCPD Webinar,
May 31, 2017
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Produced by
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Host: Robert Parson
Webinar Housekeeping

The Management of Hypertension in Canada: The Sprint Factor
Webinar Housekeeping

[Image of a webinar interface showing attendees and chat messages]

user user: ah i thought so
Swapnil: hehe
Swapnil: can you put first slide up?! wanted to take a screen capture
Swapnil: thx

Everyone
### Q1. A 55 y old active male with HTN, excellent LDL choles...

Q1. A 55 y old active male with HTN, excellent LDL cholesterol, non-smoker, non-diabetic, no history of CKD or IHD. What is the target for SBP is?

- < 140
- < 120
- < 130
- < 150
- No Vote
Impact of SPRINT on Management of Hypertension in Canada

- **BP targets**
- **Technique of BP assessment**
No conflict of interest
Clinical Scenarios
Clinical Scenarios

55 y old active male with HTN, excellent LDL cholesterol, non-smoker, non-diabetic, no history of CKD or IHD.

Target for SBP is?

a/ < 140
b/ < 120
c/ < 130
d/ < 150
Clinical Scenarios

55 y old active male with HTN, excellent LDL cholesterol, non-smoker, non-diabetic, no history of CKD or IHD.

Target for SBP is?

Less than 140 mmHg.
Clinical Scenarios

78 y old active male with HTN, excellent LDL cholesterol, non-smoker, non-diabetic, no history of CKD or IHD.

Target for SBP is?

a/ < 140
b/ < 120
c/ < 130
d/ < 150
Clinical Scenarios

78 y old active male with HTN, excellent LDL cholesterol, non-smoker, non-diabetic, no history of CKD or IHD.

Target for SBP is?

Less than 120 mmHg.
Clinical Scenarios

43 y old female with HTN, excellent LDL cholesterol, non-smoker, non-diabetic, no history of CKD or IHD.

Target for SBP is?

- a/ < 140
- b/ < 120
- c/ < 130
- d/ < 150
Clinical Scenarios

43 y old female with HTN, excellent LDL cholesterol, non-smoker, non-diabetic, no history of CKD or IHD.

Target for SBP is?

Less than 140 mmHg.
Clinical Scenarios

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a/ < 140
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c/ < 130
d/ < 150
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43 y old female with HTN, excellent LDL cholesterol, non-smoker, diabetic, no history of CKD or IHD.

Target for SBP is?

Less than 130 mmHg.
Clinical Scenarios

71 y old female with HTN, high LDL cholesterol, non-smoker, non-diabetic, CKD stage 3, history of IHD.

Target for SBP is?

a/ < 140
b/ < 120
c/ < 130
d/ < 150
Clinical Scenarios

71 y old female with HTN, high LDL cholesterol, non-smoker, non-diabetic, CKD stage 3, history of IHD.

Target for SBP is?

Less than 120 mmHg.
SBP targets

General Population < 140 mmHg
Patients with DM < 130 mmHg
High risk patients < 120 mmHg
Where is the target for SBP < 120 mmHg coming from?
The Systolic Blood Pressure Intervention Trial (SPRINT)

Multicenter, randomized, controlled trial that compares two targets for treating systolic blood pressure, < 120 mmHg and < 140 mmHg.

The Systolic Blood Pressure Intervention Trial (SPRINT)

Study population: patients of age $\geq 50$ years (no upper limit) with systolic blood pressure $> 130$ mmHg and evidence of:

- cardiovascular disease
- or
- chronic kidney disease
- or
- 10-year Framingham cardiovascular disease risk score $\geq 15$
- or
- age $\geq 75$ years.

The Systolic Blood Pressure Intervention Trial (SPRINT)

**Primary outcome**: the first occurrence of a myocardial infarction, acute coronary syndrome, stroke, heart failure, or cardiovascular disease death.

**Secondary outcomes**: all cause mortality, decline in renal function or ESRD, incident dementia, decline in cognitive function, and small vessel cerebral ischemic disease.

The Systolic Blood Pressure Intervention Trial (SPRINT)

Trial Duration: f/u planned for up to 6 years. Trial was stopped early (mean f/u 3.2 years).
Systolic Blood Pressure over the Course of the Trial

![Graph showing systolic blood pressure changes over years for standard and intensive treatments.]

**No. with Data**

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<th>Years</th>
<th>Standard treatment</th>
<th>Intensive treatment</th>
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</thead>
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**Mean No. of Medications**

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<tr>
<td>5</td>
<td>1.8</td>
<td>2.8</td>
</tr>
</tbody>
</table>

Death from any Cause

B  Death from Any Cause

Hazard ratio with intensive treatment, 0.73 (95% CI, 0.60–0.90)

Cumulative Hazard

<table>
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<tr>
<th>Years</th>
<th>Standard treatment</th>
<th>Intensive treatment</th>
</tr>
</thead>
<tbody>
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<tr>
<td>5</td>
<td>1.00</td>
<td>1.00</td>
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</table>

No. at Risk

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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
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<tbody>
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<td>Standard treatment</td>
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<td>4528</td>
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<tr>
<td>Intensive treatment</td>
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<td>4516</td>
<td>4390</td>
<td>3016</td>
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</table>

Among patients at high risk for cardiovascular events but without diabetes, targeting a systolic blood pressure of less than 120 mm Hg, as compared with less than 140 mm Hg, resulted in lower rates of fatal and nonfatal major cardiovascular events and death from any cause, although significantly higher rates of some adverse events were observed in the intensive-treatment group.

To whom does this target apply?
The Systolic Blood Pressure Intervention Trial (SPRINT)

Study population: patients of age $\geq 50$ years (no upper limit) with systolic blood pressure $> 130$ mmHg and evidence of either:

- clinical cardiovascular disease
- or
- chronic kidney disease
- or
- 10-year Framingham CV risk score $\geq 15$
- or
- age $\geq 75$ years.
To whom does this target not apply?
The Systolic Blood Pressure Intervention Trial (SPRINT)

Major Exclusion Criteria

Diabetes
h/o Stroke
Polycystic Kidney disease,
eGFR < 20 ml/min/1.73 m2, proteinuria > 1 gm/day
Heart Failure (symptomatic or < EF <35%)
Institutionalized patients
Standing SBP < 110 mm Hg
Acute Coronary Syndrome Syndrome (last 3 months)
Clinical Scenarios
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Target for SBP is?

Less than 120 mmHg.
Should you endorse this new BP target in your office?
Beware that a degree of a positive bias imposed by human error and presence of medical personnel in the room during BP readings is about \textbf{13 mmHg}.

ie casual blood pressure will be 13 mm Hg higher than the measurement obtained in SPRINT

\textit{Myers et al. BMJ 2011.}
\textit{Edwards et al. JASH 2013.}
\textit{Myers et al. 2012.}
\textit{Agarwal et al. 2017}
Preferably use Automated Oscillometric BP Devices
Beware that longer the rest prior to BP measurements the lower the BP readings.

Nikolic et al showed that resting for 10 minutes instead of 5 minutes decreases BP by about 5 mmHg.

Do you let patient rest (alone) for 5 minutes before BP assessment?

Do you use automated oscillometric device?

Do you leave patient alone during BP assessment by oscillometric device?
Do you let patient rest (alone) for 5 minutes before BP assessment?

Do you use automated oscillometric device?

Do you leave patient alone during BP assessment by oscillometric device?

If you plan to do all this, then target SBP <120 mmHg in patients with high cardiovascular risk defined as those with history of CAD, CKD, 10-year Framingham cardiovascular risk score >15%, and those aged ≥75 years.
If you use automated oscillometric BP device, but you do not leave patient rest and unattended for 5 minutes before and during BP assessment, you should not aim for target SBP < 120 mmHg (but rather for < 130 mmHg = personal opinion).
Role of casual BP reading?
BP taken without rest is called casual BP and should not be used for diagnosis and management of HTN.
For high-risk patients, aged ≥50 years, with systolic BP levels >130 mmHg, intensive management to target a systolic BP <120 mmHg should be considered.

Intensive management should be guided by automated office BP measurements.

Patient selection for intensive management is recommended and caution should be taken in certain high-risk groups.

Thank you

Questions?

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