
Assessment of Cardiac Risk
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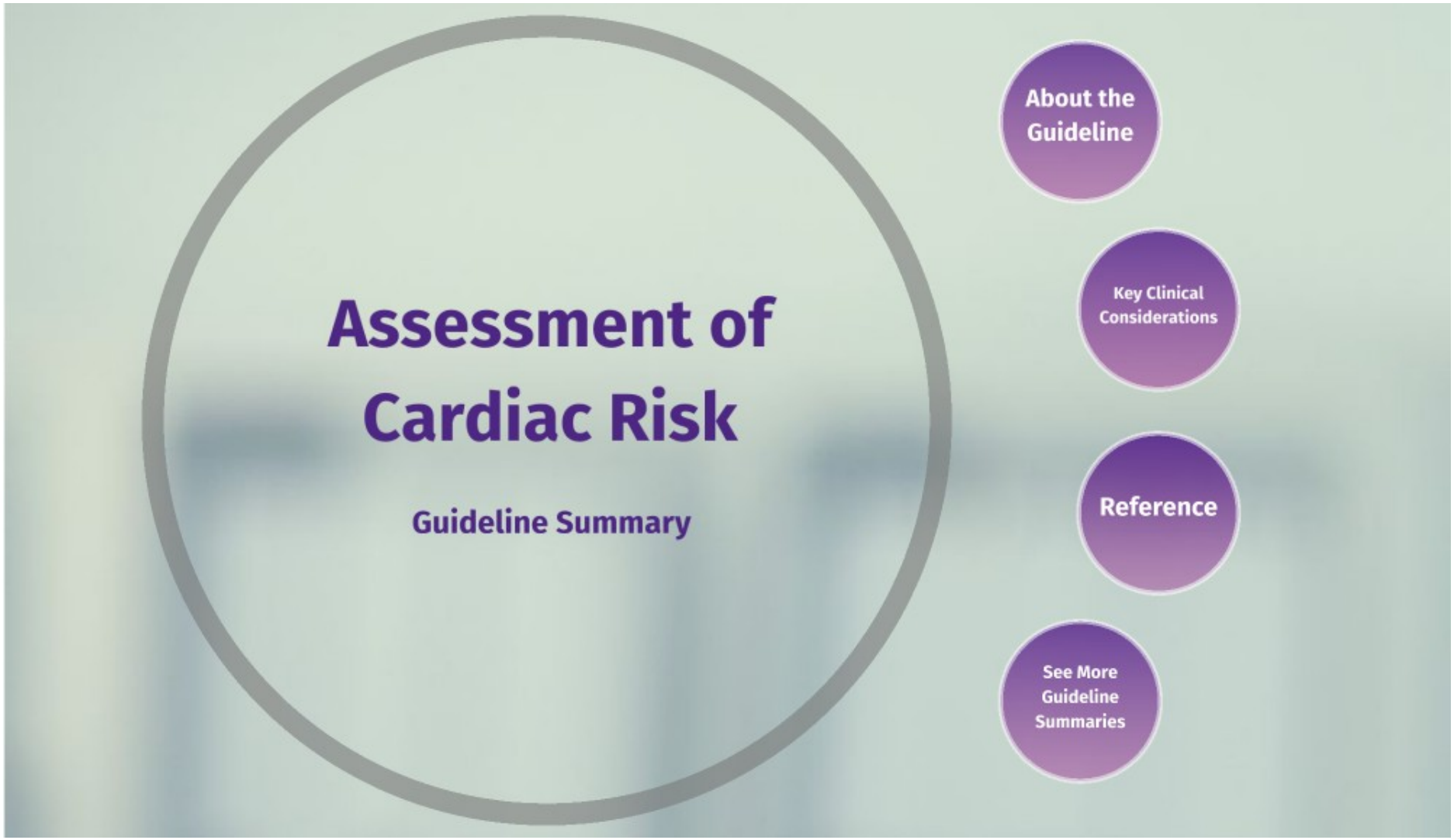
Assessment of Cardiac Risk
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About the Guideline

- Developed by the American College of Cardiology/American Heart Association task force on practice guidelines in collaboration with the National Heart, Lung, and Blood Institute (NHLBI) in an effort to provide guidelines for the assessment of cardiovascular (CV) risk to promote optimal CV health and prevent CV disease.
- The objective of this publication was to develop an approach to quantify risk assessment in order to guide care and to address key clinical questions surrounding the assessment of CV risk targeting asymptomatic patients in the general population; i.e. those with no history of atherosclerotic cardiovascular disease (ASCVD).
- The three major areas of focus were developing a risk assessment tool and addressing 2 key clinical questions (CQ) for which 7 recommendations were made.
- The intent of the guideline is to target adults with no signs or symptoms of atherosclerotic cardiovascular disease (ASCVD) who would benefit from primary prevention.


Key Clinical Considerations
The ACC/AHA ASCVD Risk Calculator (Goff et al., 2014)
A comprehensive, multivariable equation/algorithm was developed to predict the 10-year risk of developing atherosclerotic cardiovascular disease (ASCVD) in non-Hispanic African-American and non-Hispanic white men and women aged 40 to 79 years. This tool was developed from population-based cohort studies of the NHLBI. It currently exists as a risk calculator tool which takes into consideration age, sex, race, treated or untreated blood pressure level, total cholesterol, high-density lipoprotein level, current smoking status and history of diabetes (Goff et al., 2014).
• 10-year risk was defined as risk of developing a first ASCVD event including nonfatal MI or coronary heart disease related death, or fatal or nonfatal stroke in those free of ASCVD at baseline.
• Link to the algorithm: http://www.cvriskcalculator.com/
Recommendation #1
Recommendation #2
Recommendation #3
Recommendation #4
Recommendation #5
Recommendation #6
Recommendation #7


Recommendation #1
The race- and sex-specific Pooled Cohort Equations to predict 10-year risk for a first ASCVD event should be used in non-Hispanic African Americans and non-Hispanic whites, 40 to 79 years of age (this refers to the ACC/AHA ASCVD Risk Calculator).


Recommendation #2
Use of sex-specific Pooled Cohort Equations for non-Hispanic whites may be considered in estimating risk in patients from populations other than African American and non-Hispanic whites (Goff et al., 2014).
CQ1: "What is the evidence regarding reclassification or contribution to ri...

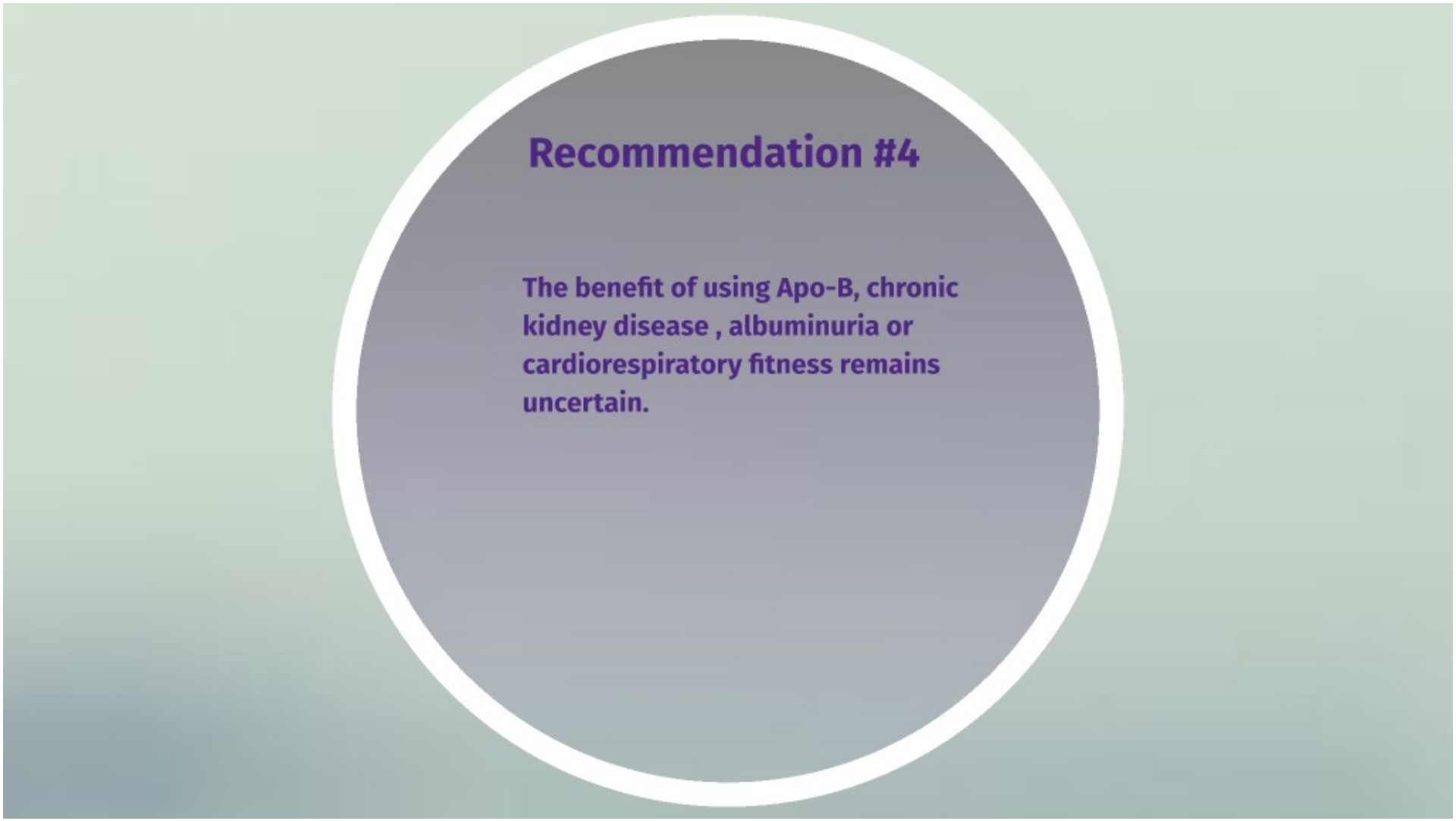
CQ1: "What is the evidence regarding reclassification or contribution to risk assessment when high-sensitivity C-reactive protein (hs-CRP), apolipoprotein B (ApoB), glomerular filtration rate (GFR), microalbuminuria, family history, cardiorespiratory fitness, ankle-brachial index (ABI), carotid intima-media thickness (CIMT), or coronary artery calcium (CAC) score are considered in addition to the variables that are in the traditional risk scores?" (Goff et al., 2014).

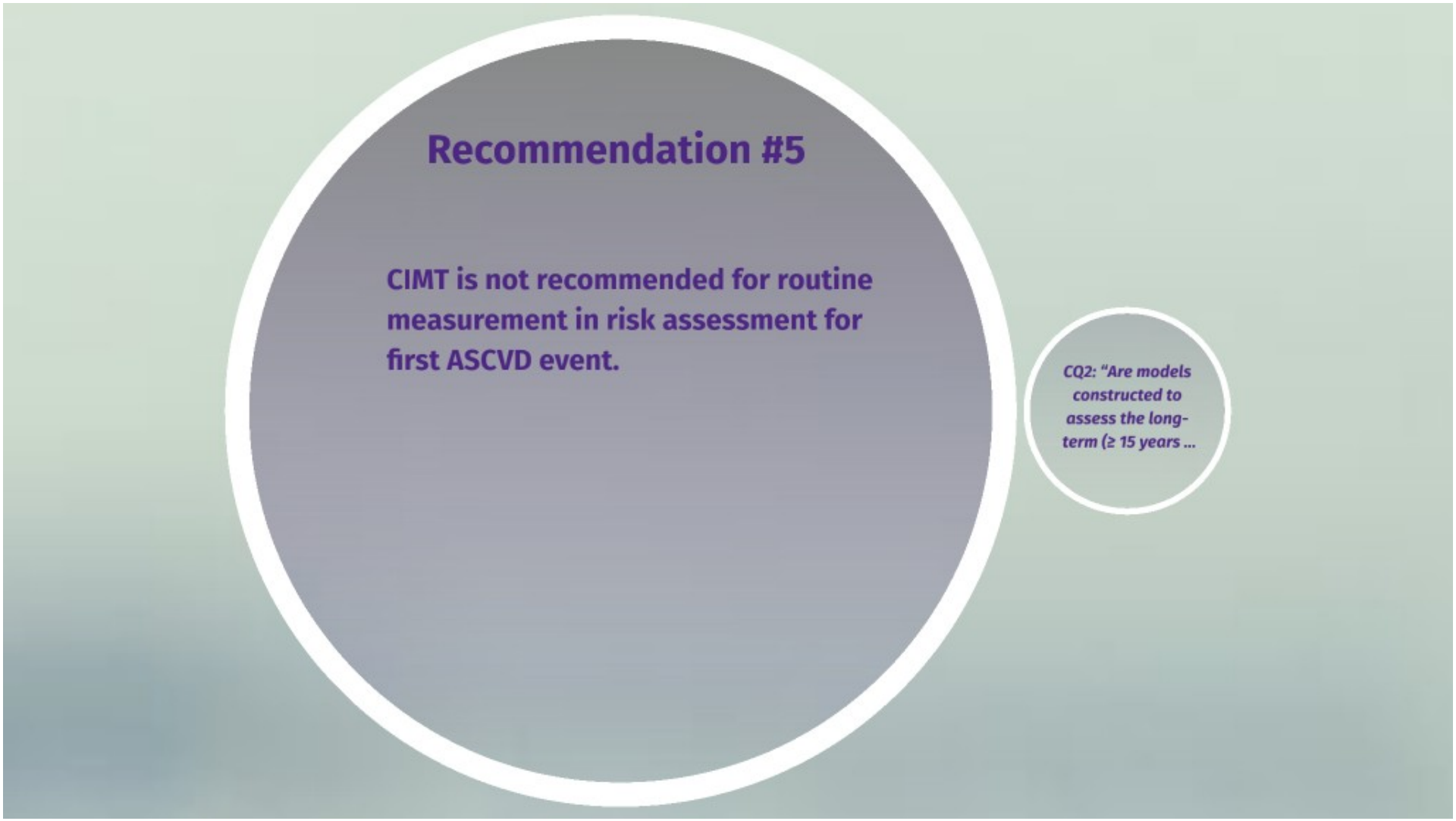
This question was chosen to improve risk estimation beyond the traditional risk factors with markers for CV disease that could improve risk assessment and warrant routine measurement in clinical practice.

Recommendation #3

If, after quantitative risk assessment, a risk-based treatment decision is uncertain, 1 or more of the following may be considered to inform treatment decision making (Goff et al., 2014):

- Family history of premature CVD (1st degree relative): male < 55, female < 65
- hs-CRP: ≥ 2mg/L
- CAC score ≥ 300 Agatston units or ≥ 75th percentile for age, sex, ethnicity
- ABI < 0.9


Recommendation #4
The benefit of using Apo-B, chronic kidney disease , albuminuria or cardiorespiratory fitness remains uncertain.


Recommendation #5
CIMT is not recommended for routine measurement in risk assessment for first ASCVD event.
CQ2: "Are models constructed to assess the long-term (≥ 15 years ...

CQ2: "Are models constructed to assess the long-term (≥ 15 years or lifetime) risk for a first cardiovascular disease (CVD) event in adults effective in assessing variation in long-term risk among adults at low and/or intermediate short-term risk, whether analyzed separately or combined?" (Goff et al., 2014).

The intent of this question was to evaluate models to use in addition to the 10-year risk assessment algorithm (ACC/AHA ASCVD Risk Calculator) to further assess lifetime risk and long-term outcomes, more particularly in those with low 10-year predicted risk.


Recommendation #6
It is reasonable to assess traditional ASCVD risk every 4 to 6 years in those aged 20 to 79 years who are free from ASCVD and estimate 10-year ASCVD risk every 4 to 6 years in adults 40 to 79 years who are free from ASCVD.

Recommendation #7

Assessing 30-year or lifetime risk of ASCVD risk based on traditional risk factors may be considered in those aged 20 to 59 who are free from ASCVD and who are not at high short-term risk.

Note: Although there was not data supporting the use of lifetime risk to guide pharmacologic therapy decisions, it could potentially be used as information to communicate and motivate therapeutic lifestyle changes in younger adults starting at age 20 (despite the threshold of age 40 for the traditional 10-year ASCVD risk assessment) (Goff et al., 2014).

Reference

Goff, D. C., Lloyd-Jones, D. M., Bennett, G., Coady, S., D'Agostino, R. B., Gibbons, R., Greenland, P.,... Wilson, P.W.F. (2014). 2013 ACC/AHA Guideline on the Assessment of Cardiovascular Risk. Circulation, 129 (Suppl. 2), S49-S73. https://doi.org/10.1161/01.cir.0000437741.48606.98

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