



## COMMENTARY

## Caffeine Elevates Blood Pressure

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Caffeine is known to increase blood pressure, and it is recommended that there be a 30 minute waiting period between drinking caffeinated beverages, eating a meal, or exercise before taking a blood pressure reading [1].

Daily consumption of coffee, either regular or espresso, or other caffeinated beverages before a reading results in elevated blood pressure. Caffeine is widely distributed throughout the body and it is water and fat soluble [2,3]. It has an elimination half life of 5 hours, which is longer than the usual pre blood pressure reading waiting period of 30 minutes. Due to its half life and fat stores caffeine's effects may be prominent and linger even after 5 half lives of last previous ingestion. Based on this, the 30 minute waiting period is not enough time to evaluate blood pressure in the face of longstanding or habitual caffeinated beverage drinking and can lead to misdiagnoses and possible hospitalizations.

The 2017 ACC/AHA Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults, indicates that in 2010, high BP was the leading cause of death and disability-adjusted life years worldwide. In the United States, hypertension accounted for more CVD deaths than any other modifiable CVD risk factor [1].

Accordingly, an error in hypertension diagnosis might affect these statistics. The 30 minute waiting period should apply to a blood pressure elevation which is transient in nature, and due to causes such as exercise or eating, and not due to caffeine ingestion, which has effects that may linger for hours, days and even up to a month.

A clinical pearl may be to include caffeine

consumption as part of a social history and obtaining a complete medication history which includes over the counter preparations and herbal medicines to insure that caffeine is not causing hypertension. At which time if caffeine ingestion, either through beverage, food, or medication is discovered, discussing a caffeine free treatment plan prior to future blood pressure measurements would be recommended.

### References

1. Whelton PK, Carey RM, Aronow WS, Casey DE, Collins KJ, et al. (2018) ACC/AHA Guideline for the prevention, detection, and evaluation, and management of blood pressure in adults: A report of the American College of Cardiology/American Heart Association task force on clinical practice guidelines. *Hypertension* 71: e13-e115.
2. (2022) Chemical compound caffeine.
3. Drugbank (2022) Caffeine: Uses, interactions, mechanism of action.