CRAVE: The Coffee And Real-time Atrial And Ventricular Ectopy Trial

Purpose: To determine the acute effects of coffee consumption on cardiac arrhythmias, physical activity, sleep, and blood glucose.

Trial Design: Volunteers wearing multiple physiologic sensors received random daily assignments to consume versus avoid coffee.

Primary Endpoints: Premature atrial (PACs) and ventricular contractions (PVCs).

Secondary Endpoints: SVT and VT episodes; daily physical activity (determined by step counts); nightly time asleep; daily average serum glucose.

Key Takeaways for the Clinician: Coffee did not increase supraventricular arrhythmias, but increased PVCs and physical activity while decreasing sleep.

	RR with coffee	95% CI	P value
Primary Endpoints			
Daily PAC counts	1.09	0.98-1.20	0.10
Daily PVC counts	1.54	1.19-2.00	0.001
Secondary Endpoints	**Coefficient**	**95% CI**	**P value**
Step counts	1,058 more daily steps with coffee	441-1,675	0.001
Sleep time	36 less minutes asleep per night	22-50	<0.001

Results:
In per-protocol analyses, those who consumed two drinks or more of coffee per day experienced more than a doubling of PVCs (p=0.007); every additional coffee drink consumed was associated with 12% less SVT episodes (p=0.028), 587 more steps per day, and 18 less minutes of sleep per night. Using genetic analyses, those who metabolize caffeine more quickly experienced heightened effects of coffee on PVCs but less effects of coffee on sleep.

Results reflect the data available at the time of presentation.

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