

## 14 New MEDICAL GADGETS

### A] An electronic cigarette e cigarette

personal vaporizer (PV) or electronic nicotine delivery system (ENDS) is a [battery](#)-powered [vaporizer](#) that simulates the feeling of [smoking](#). They are often cylindrical, with many variations. Some e-cigarettes look like traditional cigarettes, but others do not.<sup>[3]</sup> There are disposable or reusable versions. The user inhales an [aerosol](#), commonly called [vapor](#), rather than [cigarette smoke](#). E-cigarettes typically have a [heating element](#) that atomizes a [liquid solution](#) known as e-liquid. E-liquids usually contain [propylene glycol](#), [glycerin](#), [nicotine](#), and [flavorings](#). E-liquids are also sold without propylene glycol, without nicotine, or without flavors.

The nicotine inside the cartridges is addictive. When you stop using it, you can get withdrawal symptoms including feeling irritable, depressed, restless and anxious. It can be dangerous for people with heart problems. It may also harm your arteries over time. So far, evidence suggests that e-cigarettes may be safer than regular cigarettes. The biggest danger from tobacco is the smoke, and e-cigarettes don't burn. Tests show the levels of dangerous chemicals they give off are a fraction of what you'd get from a real cigarette. But what's in them can vary. "E-cigarettes may be less harmful than cigarettes," Drummond says. "But we still don't know enough about their long-term risks or the effects of second hand exposure."

#### Pro and Con

E-cigarettes have triggered a fierce debate among health experts who share the same goal -- reducing the disease and death caused by tobacco. But they disagree about whether e-cigarettes make the problem better or worse.

The FDA has proposed new regulations that would extend the agency's authority over many tobacco products, including e-cigarettes.

A minimum age requirement is among the proposed regulations.

Opponents say that because nicotine is addictive, e-cigarettes could be a "gateway drug," leading nonsmokers and kids to use tobacco. They also worry that manufacturers -- with huge advertising budgets and celebrity endorsements -- could make [smoking](#) popular again. That would roll back decades of progress in getting people to quit or never start [smoking](#).

### B] CENTRAL ARTERIOVENOUS ANASTOMOSIS for the treatment of patients with uncontrolled hypertension

Hypertension contributes to cardiovascular morbidity and mortality.

Ever since Medtronic announced less than stellar news about the effectiveness of its renal denervation system in a clinical trial, it's been a bit gloomy for those hoping to get off blood pressure drugs once and for all. Now there's new hope that rests in a small implant from **Rox Medical** (San Clemente, CA) that has shown to work effectively in a trial organized among a number of European Centres of Hypertension Excellence.

The Coupler device is implanted into the upper thigh where it is used to create a connection, a sort of fistula, between the iliac artery and iliac vein, allowing some blood to flow between the two. The cath lab procedure takes about forty minutes to complete and doesn't require sedation, a bit of local anesthetic being sufficient. Once implanted, the device helps reduce peripheral vascular resistance and lead to overall lowering of blood pressure. In the study of 83 patients, there was a reduction of 26.9 mm Hg in hypertension in those receiving the Coupler, while the control group only had a 3.7 mm Hg reduction. Interestingly, the device was shown to benefit even those that tried out renal denervation previously with little luck.

**RCT and FDA approval is under way for both the gadgets**