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SKINTRONICS: Wireless, Skin-Wearable Electronics for Monitoring of Electrocardiogram

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**Background**
- Current 12-lead ECGs are not easy to apply without experience with electrode placement
- Conventional electrodes are not comfortable nor do they conform to the skin well
- ECGs have multiple wires and must be directly connected to a monitor to view the data

**Objectives**
- Design a flexible, stretchable and wireless ECG device that is compact and conforms to the skin with preplaced electrodes
- Fabricate a prototype that contains electrodes and ECG device encased in a single silicon-like substrate that will allow it to be applied directly to the skin with conformal contact

**Design and Device Preparation**

**Characterization**

**Mechanical behaviors**

**Conclusions**
- We successfully designed a skin-like ECG monitor that is flexible and stretchable for gentle mounting on the skin.
- On-chip wireless system offers in vivo, real-time monitoring of ECG with a smart appliance (Android tablet).

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