

Video Article

# July 2017: This Month in JoVE: Fruit Polyphenols, Strength Training in the Elderly, Reactions to Anti-Smoking PSAs, and Smartphone Eye Fundus Photography

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## Abstract

Here's a look at what's coming up in the July 2017 issue of [JoVE: The World's Premier Video Journal](#)

Summer fruits are our first video-appetizer this month, specifically, berries. Publishing in [JoVE Biology](#), [our Authors](#) present a method for extracting polyphenols from freeze-dried blackberry and raspberry powder. Polyphenols have demonstrated antioxidant, anti-inflammatory and cardio-protective properties. After extraction utilizing ethanol and sonication, our authors investigate the effects of both crude and purified extracts on cultured Vascular Smooth Muscle Cells. This extraction method can be applied to a wide variety of fruits and vegetables, and that's berry cool!

Eating healthily pairs with working out as we move to our second video highlight this month, from [JoVE Chemistry](#). Here, [our Authors](#) describe a short-term resistance-training program focusing the elderly. The group used an isokinetic dynamometer to obtain detailed information on changes in strength and power, muscle biopsies to assess aerobic capacity, and monitored changes in glucose tolerance. They conclude that strength training in seniors may be more efficient and less physically stressful than endurance exercise for combatting common age related issues like diabetes, and reduce the risk of injury.

At the opposite end of the health spectrum our next study, from [JoVE Neuroscience](#), looks at anti-smoking media. [Our Authors](#) examined the emotional and cerebral reactions of subjects towards a selection of Public Service Announcements, or PSA's, aired in the USA and Europe between 1998 and 2015. Using a combination of electroencephalography, heart rate monitoring, and galvanic skin response, the researchers measured the physical and emotional effects of the commercials on the participants to gauge their effectiveness. These data may be used to design more effective PSA's in the future, and help reduce the number of current and new smokers.

All eyes are on a cool new technological application for our final highlight this month. In [JoVE Medicine](#), [our Authors](#) describe a simple method to record images of the ocular fundus using a smartphone camera and a conventional, hand-held ophthalmoscopy lens. This snappy trick allows clear documentation of macula and optic nerve changes in settings not previously available due to the lack of access to a professional fundus camera. I think we can all see how smart that is!

You've just had a sneak peek of the July 2017 issue of [JoVE](#). Visit the website to see the full-length articles, plus many more, in [JoVE: The World's Premier Video Journal](#).

## Video Link

The video component of this article can be found at <https://www.jove.com/video/5844/>

## Protocol

### Improving Strength, Power, Muscle Aerobic Capacity, and Glucose Tolerance through Short-term Progressive Strength Training Among Elderly People

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The effect of short-term resistance training on elderly people was investigated through the simultaneous use of several methods. Compared to a control group, many improvements were seen, including on muscle aerobic capacity, glucose tolerance, strength, power, and muscle quality (*i.e.*, protein involved in cell signaling and muscle fiber type composition).

## Extraction and Purification of Polyphenols from Freeze-dried Berry Powder for the Treatment of Vascular Smooth Muscle Cells *In Vitro*

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This work details a step-by-step method to prepare polyphenol-rich extracts from freeze-dried berry powder. In addition, it provides a thorough description of how to use these polyphenol-rich extracts in cell culture in the presence of the peptide hormone angiotensin II (Ang II) using Vascular Smooth Muscle Cells (VSMCs).

## Smartphone Fundus Photography

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Fundus photography normally requires specialized fundus cameras that are not always available in all clinical settings. Here, a simple method to record ocular fundus images using a smartphone camera and a conventional high-plus handheld indirect ophthalmoscopy lens is described.

## Electroencephalographic, Heart Rate, and Galvanic Skin Response Assessment for an Advertising Perception Study: Application to Antismoking Public Service Announcements

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The following protocol describes a series of operational and computational steps required to properly estimate the emotional and cerebral reaction of a group of subjects towards a selected number of Public Service Announcements (PSAs) against smoking, aired in the USA and Europe during the period between 1998 and 2015.

## Disclosures

No conflicts of interest declared.