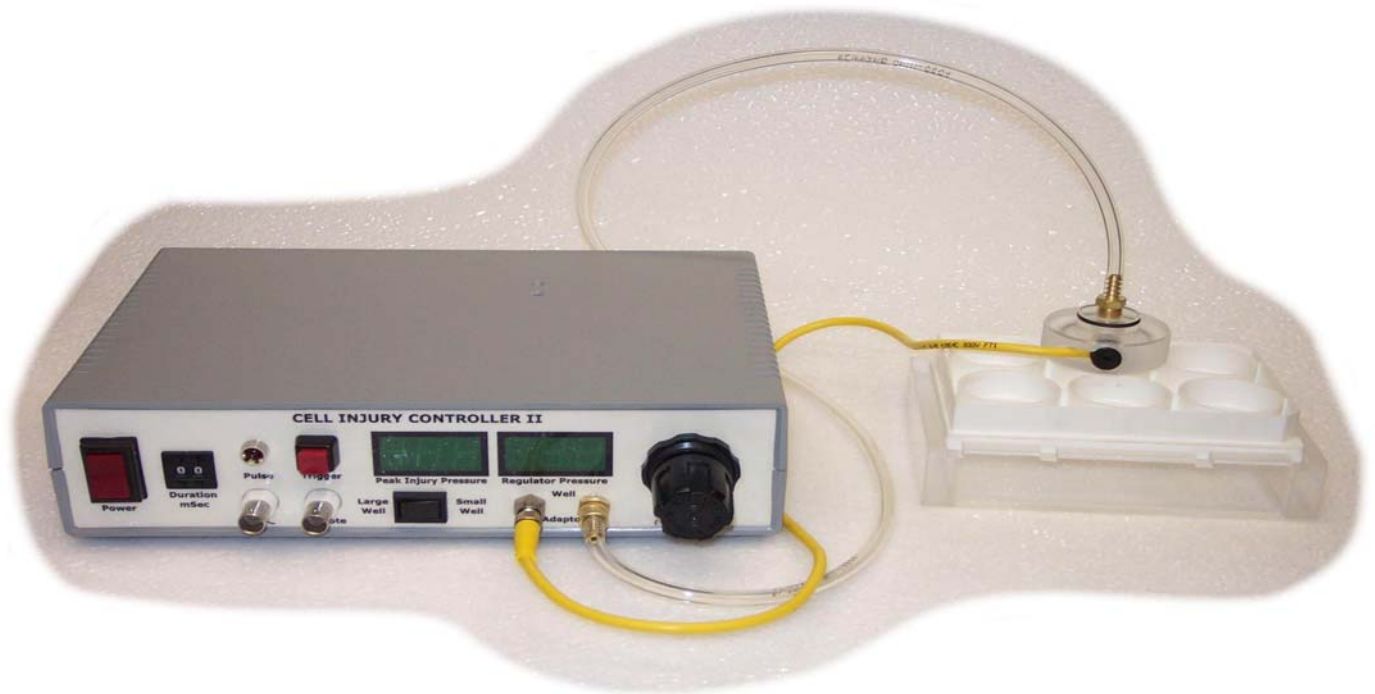


VCU Health System

Virginia Commonwealth University

Department of Radiology



The **Cell Injury Controller II** (CIC II) is an electronically controlled pneumatic device providing all the control and measurement functions necessary to for producing strain induced trauma to *in vitro* cell cultures. The CIC II facilitates study of morphologic, physiologic and biochemical responses of cultured cells to strain induced trauma.

Tissue cultures are grown in a commercially available tissue culture system from **Flexcell Int'l. Corp.**. Controlled gas pressure is used to induce a physiologically rapid deformation of the tray's **Silastic** bottom resulting in quantifiable biaxial stretch of the cells adhered to the **Silastic** surface. Injury severity is determined by controlling the flow of gas in and out of the sealed culture well. The peak culture well pressure is captured providing an accurate indicator of the resulting biaxial stretch.

The CIC II accepts both the Flex I® 29.45cm² culturing trays (used with the earlier CIC Model 94A) and the BioFlex® 57.75cm² culturing trays. Depending on the cell type, the degree of injury, and the culture conditions the injured cells may die or repair. Therefore, the system can be employed to study the responses to trauma, including cell injury, repair, death or pharmacologic intervention.

See publications dealing with biaxial strain induced injury of brain derived cells in culture at:

<http://www.people.vcu.edu/~eellis/CICPubs.html>

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