



## **A TIPS sheet: University of Washington FAS Facial Photographic Analysis Software**

### **Background:**

The Washington State Fetal Alcohol Syndrome Diagnostic & Prevention Network (FAS DPN) began as an FASD diagnostic clinic at the University of Washington in Seattle in 1993 and has since expanded both nationally and internationally. Two of the many major accomplishments of the FAS DPN include creation of the 4-Digit Diagnostic Code and development of the FAS Facial Photographic Analysis Software (Astley, S.J., Clarren, S.K. *Measuring the facial phenotype of individuals with prenatal alcohol exposure: correlations with brain dysfunction*. Alcohol & Alcoholism Vol. 36, No. 2, pp.147-159, 2001).

### **Is the FAS Facial Photographic Analysis software accurate and empirically validated?**

The software was developed by Susan Astley Hemingway, PhD in 2003 (and updated in 2012 and 2016) for use by health care and research professionals. It has been used to accurately measure the full continuum of expression of the FAS facial phenotype in thousands of individuals, birth to adult, and has been evaluated in the FASD screening and diagnostic programs. Analysis of over 3,000 patients has confirmed that the software provides more accurate measures of facial features than direct measurement by hand.

### **How does the software work?**

The software is designed to measure the magnitude of expression of the 3 key diagnostic facial features of FAS (short palpebral fissure lengths (PFL), smooth philtrum, and thin upper lip). The software scores the outcomes of these facial measures using the 4-Digit Diagnostic Code.

### **The FAS DPN site has developed a number of online resources to assist with navigating the software:**

- Visit the [FAS Facial Photographic Analysis Software](#) webpage
- Watch a 5-minute video introduction of the software in use (demonstrates PF measurements, lip circularity and philtrum measures): [Introduction to the FAS Facial Photographic Analysis Software](#)
- Access detailed [instructions](#) and animations demonstrating how to take the 3 facial photographs accurately
- Tip: Taking photos requires practice to ensure correct alignment and angles. Taking many photos is recommended, along with having the subject look “up” with their eyes only (not move their head).
- To assist with accuracy in picture taking, be sure to purchase pre-cut stickers in standard ¾ inch size
- To purchase the software, fill out this [Order Form](#).

### **Technology Considerations & Tips:**

- FAS DPN provides recommendations for computer operating systems, digital camera and image resolution requirements, along with software installation instructions via this link: [Computer and Camera Specifications](#)
- The software download is a Microsoft Windows application. The software **will not** run in the Macintosh operating system. Some users have been successful splitting their Mac OS and running the software in a virtual Windows OS.
- Other users have been successful using smartphones to capture the facial images. Images must not be saved in HEIC, HEIF or other incompatible formats. Accepted image formats are .jpg .tif .bmp

### **Frequently asked question: Is there Canadian normative data available for calculating PFL Z-Scores?**

Canadian norms (Clarren et al., 2010) can be selected for calculating PFL Z-scores. When using the software, there is a dropdown box in the “Eyes” Worksheet section of the frontal image where you can select the most predominant race of the patient. Four racial selections are available in the latest version of the software: Caucasian (Hall et al., 1989), Canadian (Clarren et al., 2010), Scandinavian (Stromland et al., 1999), African American (Losub et al., 1985)

A detailed Analysis Report is generated for each patient. Check out a sample report [here](#).