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PEDIATRIC ALLERGY AND IMMUNOLOGY

## Letter to the Editor

# Computer aided design mapping for SCORAD index in atopic dermatitis – accessible and economical

Editor,

I read with interest the article by Tripodi et al. (1) highlighting the methodology to determine the body surface area involvement in Scoring of Atopic Dermatitis (SCORAD). It is similar to computer aided design (CAD) mapping method proposed by Kanthraj et al. (2) with little difference. Both the methods are supported by computer software. They meet precision and rapidity. In the two methods (1, 2) data can be entered, stored and reproduced in a user-friendly way.

The two methods differ as photography is used in the method of Tripodi et al. (1) while proportionate graphical representation of skin lesions on a standard CAD graph is carried out with a micro tip pen in the method of Kanthraj et al. (2). The simplest method will be convenient to the clinician and will have an edge in physician's adaptability. In CAD mapping, it is done on CAD graph hence, it is simple and inexpensive. Mapping is a bedside or out – patient department procedure and graphic images can be electronic mailed. However, method of Tripodi et al. (1) involves photography. Hatching menu is available in CAD. Therefore, depending on the different area of severity of atopic dermatitis and area occupied by the objective parameter such as Erythema, Papules, and Lichenification, various Hatching patterns can be chosen on the CAD graph and their dimensions can be determined by Auto CAD Software for SCORAD Index.

CAD is slightly expensive software, though it is inexpensive for an institute, but it can be made accessible and economical for the healthcare providers as highlighted by Kanthraj (3) for wound measurement. First, by incorporating the CAD software into the existing hardware of the institute, thereby no additional money being spent. Second, basic CAD knowledge will be known to the existing computer programmer of the institute that additional recruitment of new CAD programmer is not required. Moreover, the role of pediatrician is to map out the lesions for SCORAD Index on CAD graph. The programmer will do calculation. Therefore training on CAD is not required. Third, health care professionals in the institute can use directly and those in remote areas can send the large data of graphic images through electronic mail (zipped folders) and obtain results (Fig. 1).

Most significant beneficiaries of CAD are pediatricians and dermatologists who determine the SCORAD index in atopic dermatitis. Dermatologists and leprologists to access the lesions of psoriasis, erythroderma and leprosy lesions. Surgeons and forensic experts can utilize CAD to measure and document burn with precision and rapidity. The same can be produced at the time of expert opinion. All these professionals can utilize the CAD in a centralized location maximizing its utility and generalizability. Therefore an institute can afford this CAD system.

Regarding inter- and intra-observer variability both methods (1, 2) will not have statistically significant variations. Inter and intra-observer variations are more when SCORAD index is based on rule of nines or two dimensional schematic figure outlines (4). However, Kantor and Margolis (5) have rightly opinioned that there will be partial inter- and intra-observer variability in computer based plannimetry for measurement of ulcer (6). The method (6) involves tracing the lesions once by the clinician and later by the programmer. However, even that can be minimized by tracing with microtip pen, and by scanning and electronic mailing of the images to the computer center to meet precision and rapidity and immediate feedback, instead of sending by regular mail as described earlier (6).

European Task force on atopic dermatitis has adopted rule of nines in the SCORAD index. However, rule of nines does not apply strictly to infants and children. In a child-aged 1 yr the

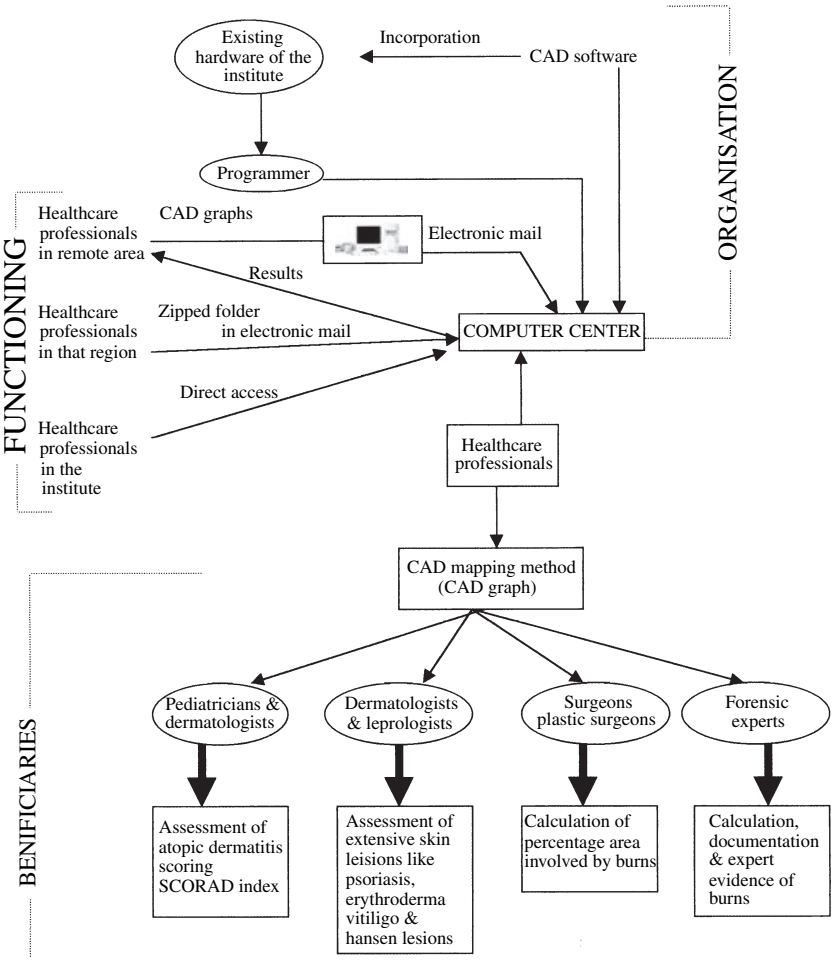


*Fig. 1.* The organization functioning and beneficiaries of Computer Aided Design (CAD) Center made economical and accessible for health care providers.

head and neck area is 18% and each leg is 14% (7). Although the shape of the individual human body varies, proportionate graphical representation of the involved area is made on the CAD graph and expressed in percentage. Thereby CAD mapping method of Kanthraj et al. (2) overcomes this disadvantage of rule of nines.

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