Three-dimensional computer animation is widely appreciated and utilised in entertainment, yet it also offers potential as a powerful tool in bringing life, interest and most importantly understanding to complex biomedical information. Applying animation techniques in this way can make critically important health-related knowledge more accessible and understandable to a broader audience. This research looks at the application of 3D computer animation techniques in providing Type 1 diabetic patients with an improved presentation of the critical blood sugar management of their condition.

Type 1 diabetes is a chronic incurable condition that is initiated by the autoimmune destruction of pancreatic cells. These cells, which produce the hormone insulin, are destroyed leaving the patient unable to absorb glucose from the blood (as insulin is needed for this), leading to severe secondary complications and, without treatment, premature death. Current treatment for diabetes involves insulin injections to match carbohydrate intake from food.

Managing the timing and amount of insulin is a task that is undertaken by the patients themselves. This research demonstrates a new visualisation tool, utilising 3D computer animation techniques, as a mechanism to visually communicate blood sugar effects and help to provide the diabetic patient with an easier to understand form of this complex information. Presenting food intake and blood sugar management visually allows the patient to more easily understand the impact of food and insulin decisions, and thus leads to improved choices and long-term improvement in health outcomes.

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