

# Diabetes and Endocrinology

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## Forensic aspects of hypoglycaemia

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Diabetes complications of hypoglycaemia, hypoglycaemia unawareness and neuroglycopenia are often encountered by patients treated with insulin. It is feared by patients and families often leading to emotional and mental scars and can affect lifestyle and confidence. Hypoglycaemia can occur in premature babies, persons with hypopituitarism and Addison's Disease. Low blood glucose can affect athletes and the elderly leading to falls. Cases are individual and often difficult for families, clinicians, lawyers and courts to understand. Temporary mental impairment and PTSD injury may occur requiring counselling to overcome hypoglycaemia. 42 years T1D insulin treatment and personal hypoglycaemia experience following wrong insulin care 1987-94 led the author to research published reports. The first hypoglycaemic event was described by Banting, Best and Macleod at the time of insulin discovery as a treatment for diabetes in 1921/22. This review includes observations from 'Forensic Aspects of Hypoglycaemia' by Prof Vincent Marks, 629 case references, February 2019 and other published papers over many years. Complications affecting stable Blood Glucose levels include Otitis Externa, Osteomyelitis, Neuropathy pain, infection treatment by IV antibiotic delivery, periodontal dental link with gum disease, inflammation, chemical change reducing insulin effectiveness, calcium stones in the saliva duct, sodium, calcium, magnesium electrolyte imbalance, Omega 3 deficiency, night saliva duct cortisol secretion, depression. Use of insulin and C Peptide assay is beneficial in

forensic investigations following unexplained death or insulin use as a weapon in alleged criminal matters. Society can learn from this research to provide improved diabetes care for patients to achieve good health and long life despite the daily burden of managing a condition with no cure. A duty of care exists by a witness, partner, friend or colleague to a person in a state of hypoglycaemia to assist and if severe summons paramedic help when the person is unable to help themselves because of temporary mental hypoglycaemia impairment..

### Recent Publications

1. Diabetes and Covid-19 Pandemic - A T1 Patient Perspective – Derek C Beatty ISSN 2639-8109
2. Forensic Aspects of Hypoglycaemia doi: 10.35248/2155-6156.20.11.e103.

### Speaker Biography

Derek Beatty gained his BSc in biological science & business studies, Edinburgh University, 1972, and his diploma in marketing, slough college, 1977. He is a Director of Aston Clinton scientific Ltd since 1997 supplying respiratory nebulisers and specialising in diabetes. He is a healthcare consultant. He recently founded Mobile Med Tech Ltd to offer a mobile diabetes service in Scotland involving NHS Scotland with experience in the team launching Europe's first mobile MRI Service in 1990. He has had T1D for 42 years and overcome diabetic retinopathy.

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