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Publications:

- *Sublingual sugar for hypoglycaemia in children with severe malaria: A pilot clinical study*, Malaria Journal 2008, by B. Graz, M. Dicko, M. L. Willcox, B. Lambert, J. Falquet, M. Forster, S. Giani, Ch. Diakite, Eu. M Dembele, D. Diallo and H. Barennes.
⇒ <http://www.malariajournal.com/content/7/1/242>
- *Sublingual sugar administration as an alternative to intravenous dextrose administration to correct hypoglycemia among children in the tropics*, H. Barennes, I. Valea, N. Nagot, Van de Perre, E. Pussard, *Pediatrics* 2005, 116(5):e648-e653.
- Médecins Sans Frontières Clinical guidelines, 2010 (sublingual sugar recommendation on page 137).
- *Transnational collaboration in the fight against malaria in the Senegal River Basin: An analysis of actors and investigative inquiry into the use and benefits of sublingual sugar*, Elisabeth Schaffer and Olivier Talpain, Master in Development Studies, Geneva, 2011.

Sublingual Sugar Technique

Urgent treatment for hypoglycaemia

For children suffering from severe malaria, hypoglycaemia is one of the main risk factors for a fatal outcome.

There is, however, a simple, accessible solution that allows family members and health workers to save lives.



A spoonful of moistened sugar deposited under the tongue of a young child in the early hours of severe malaria can correct hypoglycaemia in record time – at home or in transit to a health centre.

⇒ **A first aid measure while waiting for emergency treatment to arrive (an infusion of glucose or stomach tube still being required if blood glucose level is not corrected by the sublingual sugar).**

1. Add a few drops of water to a teaspoonful of ordinary sugar.



2. For patients who are in a coma or lying down, open the mouth by gently squeezing with the thumb and forefinger.



3. Place the sugar under the tongue. Place the patient on his/her side (in the lateral decubitus position) to prevent choking (inhalation hazard).

⇒ *Before its assimilation in the small intestine, the sugar is converted to glucose in the mouth (disaccharides broken down by enzymes; transmembrane transport system) and is absorbed.*



4. Retry after 10 minutes if the patient has not regained consciousness. Then maintain a steady supply of sublingual sugar (every 10 to 15 minutes) and supervise until stabilisation.

A **clinical study** was conducted by the Department of Paediatrics at Sikasso hospital in Mali in 2008, in collaboration with Antenna Technologies and the Swiss Agency for Development and Cooperation.

Conclusion: In 50% of cases, sublingual sugar can restore a normal blood glucose level in under 20 minutes.