

CONTINUOUS GLUCOSE MEASUREMENT, A TECHNICAL TOOL TO FACILITATE OVERWEIGHT INDIVIDUALS TO ADHERE TO A LOW CARB DIET PROGRAM

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It is difficult to keep up motivation during weight-loss attempts. It has become clear that dietary reduction of carbs - especially with a high glycemic index - is an essential part of any weight reduction project through the avoidance of sharp insulin peaks. Consequently, the continuous measurement of glucose offers a technological tool for instant monitoring of the "correctness" of the individual diet for weightloss purposes. It enables the individual to collect experience with his or her favorite food and allow for correction. Thereby, it enables him or her to learn how a personal diet could be composed without it losing palatability.

We have studied normal dietary situations while monitoring the subcutaneous glucose concentration (FreeStyle Libre, Abbott, all examples frequently reproduced).

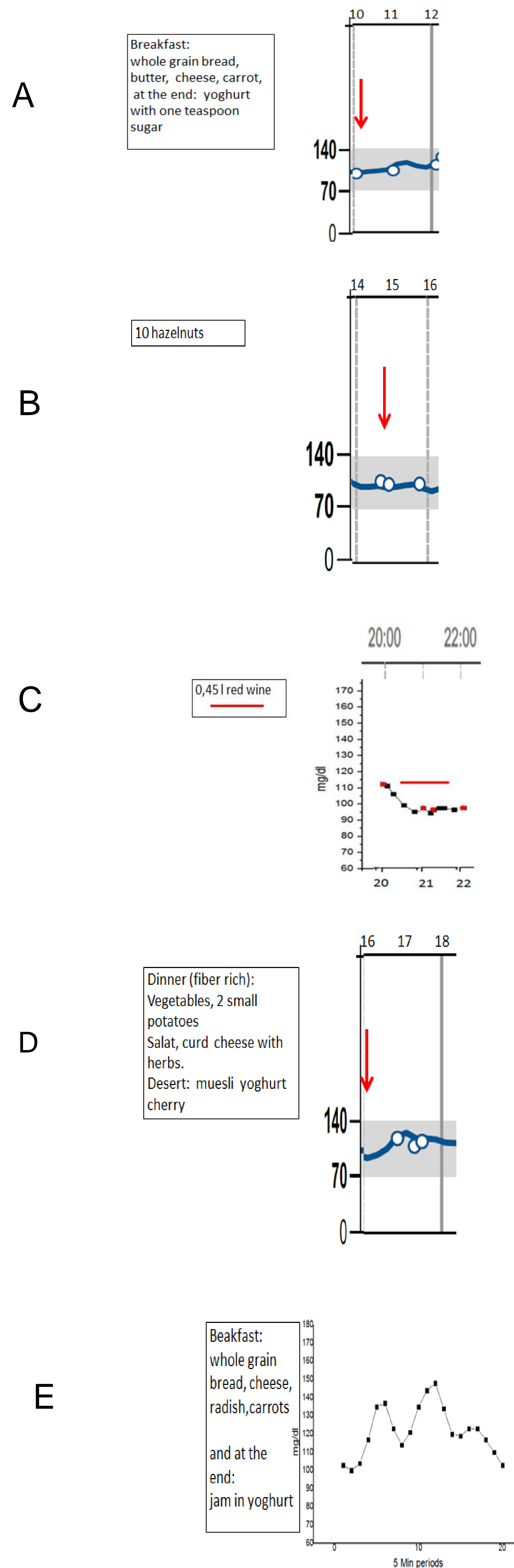
Results:

Unfavorable episodes result from hunger directly following high glucose intake (right column of examples A-E).

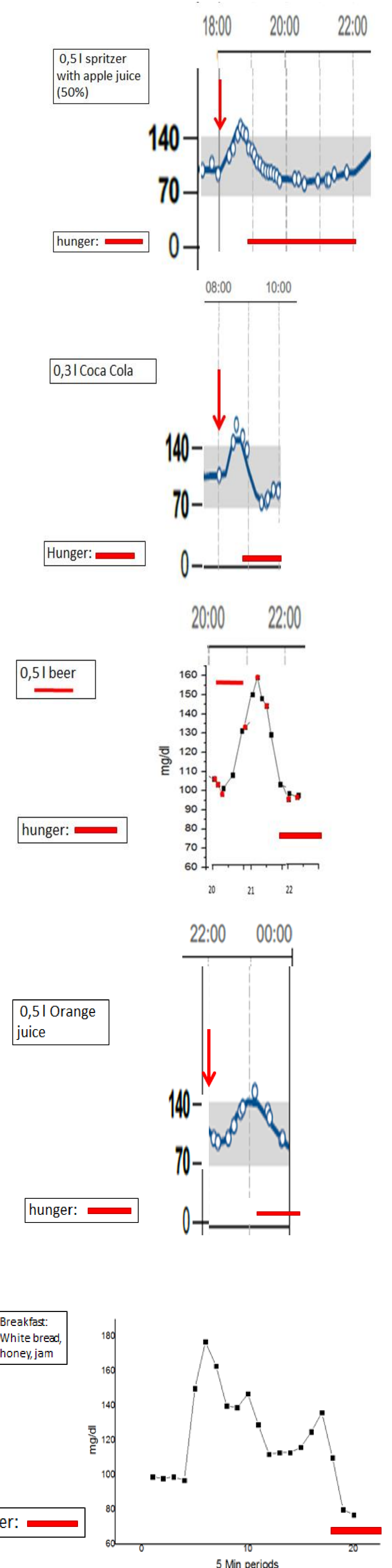
The combination with fiber-rich ingredients showed that a total restriction of sweet components in the diet was not necessary (left column of examples A,D,E) to keep glucose low.

Finally, it was possible to create a dietary composition which was well tolerated by the individual and resulted in glucose values constantly not higher than 150mg/dl.

Favorable episodes:



Unfavorable episodes:



Conclusion: Most factors which influence the blood glucose concentrations are well known. The introduction of CGM into daily life offers a direct feedback mechanism that helps the individual learn to compose and adhere to a diet that keeps glucose values low.