Glossary

V. 4.8

For an introduction into the topic of **Artificial Pancreas Systems** ("Looping"), see**:**

- https://github.com/danamlewis/artificialpancreasbook/
- and https://androidaps.readthedocs.io/en/latest/Resources/clinician-guide-to-AndroidAPS.html#for-clinicians-a-general-introduction-and-guide-to-aaps.
- Overview over all DIY loops https://www.diabettech.com/user-resources/hcp-loop-guide/
- For a resource on key topics like ISF, meal management etc. see the pdf collection in the HCL branch of: https://github.com/bernie4375/HCL-Meal-Mgt.-ISF-and-IC-settings

The parallel default branch with a "**FCL-e-book**" https://github.com/bernie4375/FCL-potential-autoISF-research- is for advanced users of systems with SMB+UAM (oref) algorithm.

Term	Description	related	more details @
AAPS	AAPS is the name of an **Open Source** (aka " DIY") looping app: On **A**ndroid phones, Bluetooth connected with an insulin pump and a **CGM**, it provides an **Artificial Pancreas System** Broadest choice of pumps and CGMs of any looping option Algorithm: see **oref**	oref iAPS, Trio iOS Loop	https://androidaps.readthedocs.io/en/latest/introduction.html#what-is-android-aps-aaps
AAPS Client	AAPS can be monitored and controlled remotely via the AAPSClient app and optionally via the associated Wear app running on Android Wear watches Similar for iOS Loop -> **Loop Caregiver**	Loop Caregiver app	https://androidaps.readthedocs.io/en/latest/GettingStarted/FAQ.html#configuring-and-using-the-aapsclient-remote-app https://androidaps.readthedocs.io/en/latest/RemoteFeatures/RemoteMonitoring.html
acceleration	mathematical analysis of the **bg** development can reveal earliest signs of a bg rise; this is highly relevant in -> **FCL** w/**autoISF; -> parabola fit**. Growing bg **delta**s are a simpler way of detecting acceleration, but with a ~ 10-20 minutes relative delay. A de-celerating rise indicates a bg peak will soon be reached.		https://github.com/ga-zelle/APS-what-if/blob/A3.2.0.4_ai3.0.1_Quick_Guide.pdf **FCL-e-book**, section 4.2
Activity Monitor	feature of some loop systems that allow adaptation of loop **aggressiveness** with ~ past hour data from the phone's (or watch') motion monitor (evtl also heart rate).	aggressiveness	**FCL-e-book**, section 5.1.5
aggressiveness of the loop	more aggressive loop settings will deliver more insulin, often via a lowered temporary **ISF** being applied to a needed	resistance sensitivity	https://androidaps.readthedocs.io/en/latest/DailyLifeWithAaps/ProfileSwitch-ProfilePercentage.html

	correction, or also via a temp. lowered **bg target**. A more aggressive loop helps fight temp. insulin **resistance** (e.g. after fatty meals). Conversely, e.g. in an exercise context, higher ISF and higher temp.glucose target help deal with increased insulin **sensitivity**, and deliver less insulin.	temp.profile override	https://loopkit.github.io/loopdocs/operation/features/overrides/ **FCL-e-book**, section 5
AIMI	dev variant of AAPS involving simple **Meal Announcement (MA)** that might be stretched into a FCL		**FCL-e-book** 13.3.2; https://discord.gg/tPDQzS3Bq3
algorithm	the algorithm is a set of calculations and plausibility/safety checks the loop goes through every 5 minutes (upon receipt of a new **CGM** value), to define what to do, notably in terms of more insulin delivery for **control of bg** (to bring it to target). DIY looping algorithms see: • -> **iOS Loop**; • -> **oref** (OpenAPS origin)	control; oref; iOS Loop insulin kinetics	https://www.diabettech.com/looping-a-guide/comparing-the-loop-and-openaps-algorithms/
AMA	advanced meal assist - algorithm to handle carbs via %**TBR** (loop not giving small boli) *iOS Loop equivalent*: "Temp.Basal Only Dosing Strategy"	TBR	Wiki - AMA https://loopkit.github.io/loopdocs/operation/algorithm/auto-adjust/#determine-the-temporary-basal-rate
Android Studio	(free) developer software needed to complete and maintain your personal copy of **AAPS**	Github *for i-Phone loops:* Xcode	https://androidaps.readthedocs.io/en/latest/Installing-AndroidAPS/troubleshooting_androidstudio.html#troubleshooting-android-studio
Anubis	DIY re-engineered transmitter for Dexcom **G6 CGM**; lasts unlimited (evtl. battery change); will not shut down sensor at 10.0 days (as factory transmitters do). For more info: „Followers of Anubis" Facebook group	G6 G6 x 2	https://docs.google.com/forms/d/e/1FAIpQLSdGtAmwqkBUaMVbBPENF_eRBSz7ZMcCz-3CjLxwc4TC6_RH5w/viewform
apk	software installation file (Android application package)	Github	Wiki - Building APK
APS	**A**rtificial **P**ancreas **S**ystem. Semi-automatic insulin delivery system that, coupled with a **CGM**, can regulate bg to target. Besides DIY systems (OpenAPS, iOS Loop, AAPS, iAPS and Trio) that pioneered this area, there is an increasing number of commercial systems now available	AAPS; Trio; iAPS; iOS Loop CGM	https://iaps.readthedocs.io/en/latest/resources/alternative.html#comparison-table-of-automated-insulin-delivery-systems ; https://github.com/danamlewis/artificialpancreasbook/
Artificial Pancreas System (APS)	a system which works to automatically keep blood sugar levels within healthy		https://androidaps.readthedocs.io/en/latest/introduction.html#what-is-an-

	limits: by detecting **glucose levels**, using these values to do **calculations**, and then delivering the (predicted) right amount of **insulin** to the body. It repeats the calculation, every few minutes, 24/7.		artificial-pancreas-system
autoISF	**oref** SMB+**UAM**, with very sharp adaptation of **ISF** to glucose "behavior" (**acceleration**, **delta**, level, stuck-at-**high**). Ideal for **FCL** but difficult to set up (initial "tuning"). Useful also in HCL (tuning then different) autoISF is available only in **dev** variants of 1. **AAPS** 2. **iAPS** 3. **Trio**	FCL	https://github.com/ga-zelle/autoISF/blob/A3.2.0.4_ai3.0.1/autoISF3.0.1_Quick_Guide.pdf 1. https://github.com/T-o-b-i-a-s/AndroidAPS/ 2.https://github.com/mountrcg/iAPS 3. https://github.com/mountrcg/Trio **FCL-e-book**
Auto(matic) Bolus	small bolus given by the loop: advanced feature for faster bg adjustment than via **TBR**–only (see **AMA**); given bolus size is limited to 40% of the calculated bolus (or to the set max.bolus, if smaller). Zero basal right after an automatic bolus is expected	*oref =* SMB	https://loopkit.github.io/loopdocs/operation/algorithm/auto-adjust/#deliver-automatic-bolus-with-scheduled-basal
Automation (Feature integrated in AAPS; other loops may need 3rd party software; or "middleware")	1. analyze patterns in YOUR data, (at times, geo-locations, or bg and iob patterns that point to a problem …) where you want your loop act differently: carve out Conditions that describe the situations 2. Define Actions (loop settings for different **aggressiveness**) for x minutes Specifically in **AAPS**: **User Action Automations** enable -> **DIY cockpi**t	Automated aggressive-ness modulation DIY cockpit middleware (iOS)	https://androidaps.readthedocs.io/en/latest/Usage/Automation.html#automation https://androidaps.readthedocs.io/en/latest/Usage/automationwithapp.html#automation-with-third-party-android-automate-app
Autosens	calculation of **sensitivity** to insulin as a result of exercise, hormones etc. in the past 8 – 24 hrs, and automatic % adjustment (within selected min and max borders) of basal, ISF and (if selected) bg targets. ((Note, if **Autotune** is also selected, the result from Autosens will be used to adjust the profile, rather than temp. moderating key profile parameters))	iob delta Autotune	DIABETTECH - Autosens https://openaps.readthedocs.io/en/latest/docs/Customize-Iterate/autosens.html?highlight=Open-APS%20Autosens#notes-about-autosensitivity

Autotune	Autotune can be used to get suggestions how to tune **profile basal**; it gives also one 24h average **IC** and **ISF** suggestion. Controversial (see 3rd link given)! Not for use with **dynamicISF**, **autoISF**.	Autosens	https://androidaps.readthedocs.io/en/latest/Usage/autotune.html#how-to-use-autotune-plugin-dev-only https://iaps.readthedocs.io/en/main/settings/configuration/autotune.html#autotune https://github.com/bernie4375/HCL-Meal-Mgt.-ISF-and-IC-settings/blob/HCL-.-settings-main-repo-(pdf)/Using%20Autotune_V.1.pdf
average delta	see **delta (**long or short avg. delta bg)	.	
basal rate	the basal rate defined in the **profile*** (that you give to your loop to work with) is the amount of hourly insulin to maintain **bg** at a stable level, in absence of -> **disturbances** *note that basal might get auto-adjusted (e.g. by Autosens, or in an exercise mode).	IC / ISF profile disturb-ance	
bg	blood glucose: the tissue glucose that all CGMs measure reflects the blood glucose, with a couple of minutes of delay. (This, plus the minutes of spacing between **CGM** values, adds to the "sluggishness" of getting our bg regulated by the loop).	control (sluggish-ness) Libre 3	
bg_delta	see **delta**		
bg deviation	describes deviations when the observed changes in glucose do not quite match up with the expected change due to insulin effects alone ->
absorbed_carbs = bgDEV * IC / ISF	called insulin counteractio n effect in iOS Loop	https://androidaps.readthedocs.io/en/latest/Usage/COB-calculation.htm
bg source	the blood glucose source is the source where your bg values come from. They come from a **CGM** system which you wear through some kind of integration software like **BYODA, xDrip+**	CGM / FGM	Wiki - BG source
BMI	body mass index		https://www.diabettech.com/artificial-pancreas/losing-while-looping-can-you-lose-weight-with-a-diyaps/
Bolus wizard	See **Calculator**		
Boost	dev variant of AAPS involving simple **Meal Announcement (MA)** that can be stretched into a FCL		Fcl-e-book 13.3.1; https://discord.gg/nYC4T9PgCR
BYODA	Build Your Own Dexcom App - a special way to generate your own Dexcom App for reading out the transmitters and pass **smoothened bg** values on for looping (e.g. BYODA -> AAPS; or w/G6 also BYODA -> **xDrip+** -> AAPS)	xDrip+	Dexcom G6 …ONE … G7 https://docs.google.com/forms/d/e/1FAIpQLScD76G0Y-BlL4tZljaFkjlwuqhT83QlFM5v6ZEfO7gCU98iJQ/viewform

	while retaining the option to use Clarity® (as your doc office may want you to use)		
Calculator	**HCL** systems (and pump therapy in general) come with bolus calculators for suggesting bolus size for meals based on: to-be-digested g of carbs (while bolus is very active; later carbs -> **eCarbs**!); IC; ISF (if bg not near target); iob.	IC pre-bolus	https://androidaps.readthedocs.io/en/latest/Getting-Started/Screenshots.html#bolus-wizard https://loopkit.github.io/loopdocs/operation/features/bolus/#meal-bolus
calibration (of CGM)	if your symptoms disagree with what the CGM shows: test with your blood glucose meter; calibration is one (but not always the best) option then	CGM	https://navid200.github.io/xDrip/docs/Calibration.html
carb absorption	1) foods with slower absorption are easier to manage with insulin 2) 30 g/h seems a max (heavy eaters: do not bolus for more g than digested while your bolus goes strong!) 3) for **oref** systems, the lower border of plausibility is defined by the **min5mCarbImpact** 4) loops calculate delta **cob** from bg **delta** and **iob** delta (using IC (CIR) and ISF); more see at: **dynamic carb absorption** 5) note that drugs,e..g.Ozempic® or co-morbidities, e.g.gastroparesis have profound effects (inform yourself about implications re. carb absorpt. corridor).	cob; iob iob delta; dynamic carb abs. eCarbs; FPU; insulin kinetics	https://github.com/danamlewis/artificialpancreasbook/blob/master/8.-tips-and-tricks-for-real-life-with-an-aps.md#heres-the-detailed-explanation-of-what-we-learned https://loopkit.github.io/loopdocs/operation/features/carbs/#review-carb-absorption https://androidaps.readthedocs.io/en/latest/Usage/FullClosedLoop.html#meal-related-limitations
carb ratio	see **IC** factor (AAPS) or carb insulin ratio **CIR** (iOS Loop)for this	IC CIR	Carb ratio determ……pdf" in: https://github.com/bernie4375/HCL-Meal-Mgt.-ISF-and-IC-settings
CGM	continuous glucose monitor (Dexcom, Libre, and other systems)	bg source G7, 6…; Libre 3	https://www.diabettech.com/cgm/six-of-the-best-digging-further-into-the-statistics/
CIR (carb insulin ratio)	factor (g/U) describing how many grams of carb are covered by one unit of insulin	carb absorption *oref:* IC	https://loopkit.github.io/loopdocs/operation/features/carbs/#review-carb-absorption
circadian (sensitivity, basal rate, ISF…)	basal need, **IC** and **ISF** vary over 24 hours according to a „circadian" pattern of varying sensitivity to insulin. Improper profile settings will "use up and waste" some of the loop system's capability to correct for disturbances.	disturbance	Section 5. in "ISF determ…pdf" : https://github.com/bernie4375/HCL-Meal-Mgt.-ISF-and-IC-settings

Closed Loop	closed-loop systems make automatic adjustments to basal delivery (**TBR**), without needing user-approval, based on an **algorithm**; some also can automatically bolus (**SMB**)	Open Loop	https://androidaps.readthedocs.io/en/latest/Resources/clinician-guide-to-AndroidAPS.html#for-clinicians-a-general-introduction-and-guide-to-aaps ; Wiki closed loop
clinician support of DIY systems	the references given demonstrate increasing consensus to support DIY solutions as suitable for their patients		https://androidaps.readthedocs.io/en/latest/introduction.html#support-for-diy-looping-by-other-clinicians
cob (g)	carbs on board is the amount of carbohydrates currently available for digestion ("that still needs **iob**").	carb absorption; iob	https://androidaps.readthedocs.io/en/latest/Usage/COB-calculation.html#how-does-aaps-calculate-the-cob-value https://loopkit.github.io/loopdocs/operation/features/carbs/#review-carb-absorption
connectivity	numerous options for Bluetooth or WLAN connected devices. Additional open-source software and platforms (which are not shown in reference, e.g. Automate!, or Android Auto) can also be integrated.		https://androidaps.readthedocs.io/en/latest/introduction.html#what-is-the-connectivity-of-the-aaps-system
control of bg (sluggishness)	balancing **carb absorption** with **insulin activity** is a very difficult „sluggish" control problem - very much like boating. See slides 11-19 in "Meal Mgt….pdf".	carb absorption; insulin kinetics; bg	"Meal Mgt. 1 -4….pdf" in: https://github.com/bernie4375/HCL-Meal-Mgt.-ISF-and-IC-settings
delivery ratio	portion of **insulin required** that gets delivered by the loop via SMB or TBR; fixed at 50% in AAPS Master. Note that going towards 100% would be very unsafe at CGM jumps! It is better to wait another 5 minutes to confirm the bg trend, for getting again 50% of what *then* is required (=of what *was* held back, plus of "*newly developed* need")	insulin required SMB	https://androidaps.readthedocs.io/en/latest/Usage/FullClosedLoop.html#enabling-boosted-smbs-safety **FCL-e-book** section 2.3
delta All 3 delta categories show in the top section of the AAPS main screen	delta bg =d5=in past 5 minutes: important anchor point for loop calculations (see e.g.. in SMB tab of AAPS) = bg(0m)-bg(-5m) short avg delta= d15=avg. of *last 3* deltas = (bg(0m)- bg(-15m))*/3* long avg.delta=d45 is the average delta *between 15 and* 45 minutes back = (*bg(-15m)*- bg(-45m))*/6*	iob delta	
dev	dev version of **Master** =software in pre-Master-release testing,	autoISF; Boost;	

	dev **variants** have different, often extra, features to Master = still in development, insufficiently tested for broader release	and many others	
Dexcom	**CGM**, see **G7**, **G6**		
DIA (hours)	duration of insulin action	insulin kinetics	Wiki insulin types DIABETTECH - DIA Insulin_DIA…pdf" in: https://github.com/bernie4375/HCL-Meal-Mgt.-ISF-and-IC-settings
disturbance	Factors like meals and exercise (and ~40 others) disturb the smooth operation that would be possible with a well set basal profile. The set **ISF**, or a temp. activated **exercise mode** may enable the loop to automatically manage the disturbance. In other cases, a **%profile switch** or other measures may be needed.	ISF; exercise mode; %profile switch	https://diatribe.org/poster-now-available-42-factors-affect-blood-glucose **FCL-e-book**, section 5.2
DIY cockpit	term used for * having all buttons to "tweak" loop **aggressiveness** on the main screen of the closed loop phone * using tools like "**user action Automation**s" in **AAPS** to construct extra buttons for this purpose These can be programmed to show only in pre-defined times, or geo-locations …		**FCL-e-book**, section 5.2.2
Dual Hormone Loop	"Double closed loop" featuring insulin AND glucagon (in development): the glucagon component not only helps stay out of hypos. It enables a more aggressive treatment for preventing, or reducing, high glucose values, as well		**FCL-e-book** 13.6
dynamic carb absorption	every 5 minutes, loops figure out carb absorption from **bg delta**, **insulin activity** consumed, and other data, and make predictions used in their dosing decision: **1)** oref loops **(AAPS**, **Trio**, and **iAPS)** can work entirely without carb inputs at meals ("UAM", "FCL") **2) iOS Loop** makes strong use of the user's carb inputs	UAM FCL	Section 1.2 in: https://github.com/bernie4375/HCL-Meal-Mgt.-ISF-and-IC-settings/blob/HCL-.-settings-main-repo-(pdf)/IC%20(carb%20ratio)_V.3.1.pdf **1)** https://androidaps.readthedocs.io/en/latest/Usage/COB-calculation.html **2)** https://loopkit.github.io/loopdocs/operation/algorithm/prediction/ and https://loopkit.github.io/loopdocs/operation/algorithm/prediction/#carbohydrate-effect
dynamic carb ratio	automatic adaptation of **IC** to bg level and to past day(s) TDD (not useful in advanced oref looping/FCL)	Trio, iAPS	https://discord.gg/gGKXW5uX3m

dynamicISF	automatic adaptation of **ISF** to bg level and to past day(s) TDD; tuneable. several refined versions, e.g. using bg AND predicted bg; pegging in some form to profileISF ... (Caution: Can make life easier but can be inferior to using a well tuned **profile ISF** + being proactive with manual or automated **%profile switch**es)	sigmoid	https://androidaps.readthedocs.io/en/latest/Usage/DynamicISF.html#dynamicisf-dynisf
dynamic iobTH	**iob threshold** above which no more **SMB**s are given varies with the set exercise target (feature of **exercise mode** in **autoISF**)	iobTH exercise	**FCL-e-book** section 6.1.3
dynamic bg target	your loop probably allows you to generally select "**sensitivity** raises bg target" and "**resistance** lowers bg target". (Caution: Can lead to **rollercoaster**s, especially if your carb settings and daily inputs are not spot-on (=> skewed **Autosens**!))		
EatingSoon TT (mg/dl) or (mmol/L)	Concept going back to looping pioneer Dana Lewis: to set a very low temp. bg target ~ 1 h before meals, so the loop gets a low bg starting point, and also some pos. iob at meal start	pre-bolus	https://github.com/danamlewis/artificialpancreasbook/blob/master/8.-tips-and-tricks-for-real-life-with-an-aps.md#how-to-do-eating-soon-mode
EatingNow	dev variant of AAPS involving simple **Meal Announcement (MA)** that might be stretched into a FCL		**FCL-e-book** 13.3.3; https://discord.gg/XqhnPRChEP
eCarbs	"extended carbs" – Carb inputs split up over several hours; consider also effects from fat/protein (**FPU**) here. **extended bolus**es you might know from regular pump therapy do not make much sense when looping; when your given bolus fades out, the loop takes increasing-ly over w/ **SMB**s or high %**TBR**	FPU SMB Calculator	https://androidaps.readthedocs.io/en/latest/Usage/Extended-Carbs.html#what-are-ecarbs-and-when-are-they-useful eCarbs use case
Emulator	program to analyze **AAPS logfiles**, including what-if analysis Note: iAPS has some on-bord analytic capabilities	log files	https://github.com/autoisf/what-if
exercise mode	a loop mode which limits how high iob will/can go, via any combination of: raising glucose **target**, lowering **profile basal**, elevating **ISF**, limiting **iob.**	TT %profile switch; dynamic iobTH	https://loopkit.github.io/loopdocs/operation/features/overrides/?h=exercise#create-an-override-preset https://androidaps.readthedocs.io/en/latest/Usage/making-sport-with-AAPS.html#cycling

			https://diyps.org/.../how-to-exercise-when-exercise-is... **FCL-e-book**, section 6
extended bolus	frequently desired by looping beginners "to fight high bg", this contradicts the very idea of looping: the algo must receive the inputs to manage bg (tuning). Boli (also the initial meal bolus in **HCL**) disturb the workings of the loop (that shuts off for a while via **zero-temping**)	eCarbs	https://androidaps.readthedocs.io/en/latest/Usage/Extended-Carbs.html#extended-bolus-and-why-they-won-t-work-in-closed-loop-environment
FCL-e-book	Series of pdfs about **FCL**, with case studies (**autoISF** focused, but all other methods are presented and referenced)	FCL	https://github.com/bernie4375/FCL-potential-autoISF-research-
FPU (g)	Fat-Protein-Units, converted into g carb equivalent Rather than worrying too much about conversion factors for FPUs (controversy see slide 30 in 2nd link ->) … … oref loopers should rather see to it that their loop can deal well with temporary (!) insulin resistance from fatty acid receptor blockages (3rd link) Note that autoISF has the "dura_ISF" component to deal with plateaus of high bg.	eCarbs	https://iaps.readthedocs.io/en/latest/settings/services/fatprotein.html#fat-and-protein-conversion ; p. 3 in: "Meal Mgt. 3 .pdf" in:https://github.com/bernie4375/HCL-Meal-Mgt.-ISF-and-IC-settings https://androidaps.readthedocs.io/en/latest/Usage/FullClosedLoop.html#stagnation-at-high-bg-values
FCL: Full Closed Loop	Mode of closed looping without the user giving any boli, and without carb inputs. Depending on lifestyle and **%TIR** expectation, can run fully hands-off, or require a few button pushes at special **disturbances**, like heavier exercise. Setting up (personalized tuning) is difficult!	Hybrid Closed Loop (HCL) UAM	https://androidaps.readthedocs.io/en/latest/Usage/FullClosedLoop.html; **FCL-e-book** see: https://github.com/bernie4375/FCL-potential-autoISF-research-
G7, G6, ONE, G5	abbreviation for Dexcom sensor/transmitter **CGM** systems	BYODA	Wiki - BG source
G6 x 2 (overlapping)	method to get un-interrupted **CGM** values	Anubis; xDrip Variant	**FCL-e-book**: Case study 1.5
git	git in our context here is the tool to mainly download the **AAPS** sources from **Github** for the build process. It's version-control system for tracking changes in computer files and coordinating work on those files especially for teams. -> necessary for **apk** updates		Wiki - update APK
GitHub	web-based hosting service for version control using git -> storage of **source code** to build **apk**, and of related documentation	1.Android Studio; 2/3.Xcode	1. GitHub AndroidAPS; 2a.https://github.com/nightscout/Trio

	for: 1) AAPS 2a) Trio 2b) iAPS 3) iOS Loop Note: Special **dev** variants are on other Github pages, see e.g. @ **autoISF**		2b.Github_build_iAPS.yml 3.https://loopkit.github.io/loopdocs/gh-actions/gh-first-time/
glucagon	… as experimental (!!) adjunct for improved glucose control… Discord group "insulin-plus-glucagon": https://discord.gg/eHSgx5jWuk		https://www.diabettech.com/glucagon/glucagon-me-n1-experiments-with-microbolusing-glucagon-part-2-quantifying-use/
glucose momentum	term used for predictions in iOS Loop; assumes that the bg effects seen in the last three five-minute segments are likely to continue for a short period of time	iOS Loop	
glucose target	corrections by the loop aim at the bg target value (set in the **profile*** for each hour of the day); depending on nature of disturbances, and properly set ISF, that value should be gradually reached over the course of 2-4 hours; *note that targets might get auto-adjusted (e.g. by Autosens, or in an exercise mode).	TT	
half-basal exercise target	at *elevated* temp. glucose targets (as for exercise), loop aggressiveness (profile basal, ISF used) gets reduced. Effect is the stronger the lower this parameter is set (in AAPS/Preferences default is 160 mg/dl*), and the higher the TT; in case you switch "low_TT_reduces_ sensitivity" ON in /Preferences, the parameter can *) also be used for *increasing* the loop aggressiveness!	* AAPS x autoISF; might differ or be non-existent in other loops	Details see on Exercise Mode page of the autoISF Quick guide: https://github.com/ga-zelle/autoISF/blob/A3.2.0.4_ai3.0.1/autoISF3.0.1_Quick_Guide.pdf
HCL: Hybrid Closed Loop	the usual mode of looping, with the user initiating a meal bolus (and making other frequent inputs, notably re. carbs). This is really a compromise owed to slow insulins in-capable of dealing with rapid carb absorption	calculator; extended bolus; FCL	https://androidaps.readthedocs.io/en/latest/introduction.html#what-does-hybrid-closed-loop-mean
iAPS	oref loop (like AAPS, but) for i-phone **Caution:** iAPS is a "alpha" early dev variant with little testing and incomplete docu (and not fully Open Source). Weekly stream of new features and bugfixes, but not safe unless you constantly stay informed in Discord Source code (apk): see **Github** A safer route is to use **Trio** (Master expected to launch inQ3/2024) Requires Apple developer licence ($ 100/year), and Xcode.	Github Trio AAPS Xcode	https://discord.gg/JVXwG7gS https://www.facebook.com/groups/1351938092206709 https://iaps.readthedocs.io/en/latest/;

IC (carb ratio) (g/U)	factor (g/U) describing how many grams of carb are covered by one unit of insulin	*iOS Loop:* CIR	IC determ……pdf" in: https://github.com/bernie4375/HCL-Meal-Mgt.-ISF-and-IC-settings
ICE (insulin counteraction effects)	example: user enters 72g carbs w/ 4 h absorption => *Loop* adds 50% time, and assumes a **min. absorption rate MAR** of 12g/hr for 6 hrs. .This linear model is modulated using recently observed glucose data to estimate how fast carbohydrates have been absorbing. The expected change in glucose due to insulin effects alone is compared to the actual observed changes in glucose. This difference is termed the insulin counteraction effect (ICE):		
individualized tuning	DIY loops are not self-learning but require "tuning" to find proper individual settings, 1) for Meal Management **HCL**: **AAPS Objectives**; **meal management** **FCL:** dial in your settings (incl. Automations) so the loop is enabled to mimick your successful HCL Meal Management (notably, similar insulin activity curve, going up a bit later, but very steep….) 2) finding individual temporary settings to adapt loop **aggressiveness** for other **disturbances** e.g. exercise Note 1: Tuning must follow a certain sequence (to avoid instability from counter-balanced multiple errors). Resist the temptation to just play around on the many "buttons" offered! Note 2: Learn not to interfere, make your loop – over time – fit to manage automatically	Objectives; Meal management; FCL tuning	HCL guidance in: https://github.com/bernie4375/HCL-Meal-Mgt.-ISF-and-IC-settings **FCL-e-book** in: https://github.com/bernie4375/FCL-potential-autoISF-research- other disturbances (than meals, see "42 factors..pdf"@HCL guidance), see e.g. sections 5 and 6 in **FCL-e-book**: https://github.com/bernie4375/FCL-potential-autoISF-research-
insulin activity (U/5 min)	part of **iob** that will become active in the upcoming 5 minutes (above profile basal supply => figure can be negative also)	insulin kinetics: blue curve	
insulin counteraction effect (ICE)	ICE describes deviations when the observed changes in glucose do not quite match up with the expected change due to insulin effects alone -> absorbed_carbs = ICE * CIR / ISF	iOS Loop bg deviation	
insulin kinetics	**AAPS** insulin tab shows two curves: The pink curve starts at 1.0 (100%) and goes down to 0 (0%) when the **DIA** is over. It shows iob left, at any time. The	control of bg (sluggishness)	"Insulin_DIA…pdf" in: https://github.com/bernie4375/HCL-Meal-Mgt.-ISF-and-IC-settings

	blue curve shows how the activity goes: Practically nothing (!) for a bunch of minutes, then rapidly going high, and then slowly fading out out over the DIA period (with a maximum at time-to-peak). For its calculations, AAPS adds these blue curves up for all boli, **SMB**s and **TBR**s **profile basal** -> thin yellow "activity"curve you can see in your AAPS glucose screen!		"The artificial pancreas…pdf" in: https://github.com/bernie4375/HCL-Meal-Mgt.-ISF-and-IC-settings/blob/FCL-w/autoISF/The%20Artificial%20Pancreas%20and%20Meal%20Control.pdf https://loopkit.github.io/loopdocs/operation/algorithm/prediction/#insulin-effect
insulin required (U)	*key parameter in the **oref** loop algo*: from how **bg**, **iob** and **cob** resp. **carb deviations** develop (-> **predictions**), need for more insulin is calculated *equivalent (but determined differently) in iOS Loop:* -> **recommended dose**	SMB predictions delivery rate	https://openaps.readthedocs.io/en/latest/docs/While%20You%20Wait%20For%20Gear/Understand-determine-basal.html?highlight=insulin%20required#blending-relevant-predictions
integral correction effect	via selecting the **IRC** setting for "Integral ..Correction", iOS Loop uses "learning" from historical prediction problems (deviations) when making glucose predictions	iOS Loop	https://loopkit.github.io/loopdocs/operation/algorithm/prediction/#integral-retrospective-correction-effect
iob (U)	insulin on board; units of insulin (above basal need) currently available to become (within the remainder of its DIA) active in your body (to deal with un-absorbed carbs, or with other disturbances)	insulin activity DIA	https://androidaps.readthedocs.io/en/latest/Getting-Started/Screenshots.html#section-d-iob-cob-br-and-as
iob delta (U)	insulin consumed = (1) delta bg / ISF = used for bg correction (2) the rest of the delta iob, multiplied with IC, is the grams of carbs absorbed. (3) if (2) results in implausible **carb absorption**, then IC and ISF are adapted "to force a plausible fit"; and the adapted insulin sensitivity is then reflected in **Autosens** ≠ 100%	carb abs. 2), 3) min5m_carb.impact	
iobTH (U) *or* iobTH**%** (% of maxIOB)	iob threshold (set below **maxIOB**); at **iob** > iobTH, the loop will give no more boli (**SMB**) but only **TBR**	iob; maxIOB; SMB	https://androidaps.readthedocs.io/de/latest/Usage/FullClosedLoop.html#iob-threshold
iOS Loop	easy DIY loop to set up on i-phone; iOS Loop uses a model predictive control (MPC) algorithm to maintain glucose in a correction range by predicting the contributions from four individual effects (insulin, carbohydrates, **retrospective correction**, and **glucose momentum**). algorithm requires precise carb inputs at all meals (no **UAM** or **FCL**);	i-phone loops with different algorithm (as in AAPS) =>: Trio; or iAPS	https://loopkit.github.io/loopdocs/ https://www.loopandlearn.org/starting-loop/ https://loopkit.github.io/loopdocs/faqs/algorithm-faqs/#more-algorithm-information

	very limited choices of pumps		https://loopkit.github.io/loopdocs/operation/algorithm/overview/#algorithm-terminology
IRC	see integral correction	iOS Loop	
ISF (mg/dl)/U or (mmol/L)/U	insulin sensitivity factor = the expected decrease in **bg** as a result of one unit of insulin; most important parameter in **oref** loops	IC	ISF determ…pdf" in: https://github.com/bernie4375/HCL-Meal-Mgt.-ISF-and-IC-settings
LGS	Low Glucose Suspend **AAPS** will reduce basal if **bg** is dropping. But if bg is rising then it will only increase basal if the **iob** is negative (from a previous LGS), otherwise basal rates will remain the same as your selected profile. You may temporarily experience spikes following treated hypos without the ability to increase basal on the rebound.	objective 6	https://wiki.aaps.app/en/latest/Usage/completing-the-objectives.html#objective-6-starting-to-close-the-loop-with-low-glucose-suspend
Libre 3	**CGM** ; also Libre2 (alternatives to **Dexcom** CGMs)	CGM bg	https://www.diabettech.com/cgm/battle-royale-freestyle-libre-3-and-dexcom-g7-face-off-the-results/;
Libre 3 **1 minute**	First option to run a 1-minute **CGM** - which could bridge a few minutes of "sluggish" delay in looping. This is particularly of interest in no-bolussing **FCL** (see 2nd reference ->).	bg; control (sluggish-ness)	https://github.com/Nightsco…/xDrip/releases/tag/2023.02.15 https://github.com/ga-zelle/autoISF
log files	record of all **AAPS** actions (useful for troubleshooting and debugging)		Wiki - log files
Loopo Caregiver App		AAPS Client	https://loopkit.github.io/loopdocs/nightscout/loop-caregiver/
low glucose suspend	see LGS	LGS	
MA	see: Meal Announcement		
MAR (minimum absorption rate)	example: user enters 72g carbs w/ 4 h absorption => *iOS Loop* adds 50% time, and assumes a **min. absorption rate (MAR)** of 12g/hr for 6 hrs.	*oref: see* min_5m_carb-impact	
Master	Master is the latest official release, the software that should be used. Note that it is advisable to tune profile in Master **before** adding more features.	dev; vanilla	
maxIOB	safety feature: maximum total **iob** the loop can't go over. (can be limited by set patient type!)		https://androidaps.readthedocs.io/en/latest/Usage/Open-APS-features.html#maximum-

			total-iob-openaps-cant-go-over-openaps-max-iob
MDI	mulitple daily injections: option to manage your t1d with an insulin pen (and **bg** measurements or **CGM**). An option you should resort to in case components of your loop system are unreliable (pump, **occlusion**, erratic CGM, instable Bluetooth)		https://androidaps.readthedocs.io/en/latest/introduction.html#how-does-aaps-compare-to-mdi-and-open-looping
Meal Announcement (MA)	MA is a closed looping mode between **HCL** and **FCL**: In contrast to HCL, no carbs are counted with an attempt to give a suitable meal bolus. But in contrast to FCL, some form of meal announcement must be made, usually by giving a small **pre-bolus**.		
Meal Management	Juggling (for every meal!) the differing carb and insulin absorption characteristics, so bg stays in range, is a tough, if at all possible, mission. Big effort should go into **individualized tuning** of the loop system, and into defining bolus strategies	EatingSoonTT; pre-bolus	„Meal Mgt.1-4.pdf“ and „IC determ..pdf“in: https://github.com/bernie4375/HCL-Meal-Mgt.-ISF-and-IC-settings
middleware	custom algorithm add-ons (notably in **iAPS** that does not have the **Automation** feature of **AAPS**)	Automations	https://github.com/macconnellk/RoboSurfer/tree/main Middleware code for iAPS https://discord.gg/3JWQRzfyB2
min_5m_carb impact	safety feature (oref): default carb decay at times when **dynamic carb absorption** does not reasonably work out based on your bg reactions	carb absorption *iOS Loop: see* MAR	„min5m_CI …xls” in: https://github.com/bernie4375/HCL-Meal-Mgt.-ISF-and-IC-settings Wiki - config builder
minimum carb absorption rate	*see for oref:* **min_5m_carb-impact** *see for iOS Loop*: **MAR**		
negative iob	**iob** is defined as insulin on bord above **(profile) basal** need. **Negative iob** can occur (and can self-resolve, too). Too high set *profile* basal can be behind neg.iob. Likewise, if you forget to keep *temp.%*profile reduced after a day of exercise, your profile basal will be *temporarily* too high, and neg.iob would be reported. Tipp: For easy spotting of neg.iob phases you can use an extra graph on the bottom of your AAPS main screen; define IOB (not ABS!) as the first parameter		
Nightscout (NS)	**open source** project to access and report **CGM** and related data. Convenient	Nightscout Reporter	Nightscout

	options (10be, NS pro) that host your large amount of data come with monthly cost. - Except for a brief initial period, it is not required that AAPS loopers are using NS.		Hosted services: https://nightscout.github.io/#nightscout-as-a-service
Nightscout Reporter	free tool provided by a fellow looper to generate great PDF reports from your Nightscout data, e.g. for meetings with your diabetes team.	Nightscout	Nightscout Reporter NS Reporter @ Facebook
NS Client	part of **AAPS** to connect to your Nightscout site; important also for remote monitoring and control (parent/kid)	remote control	Wiki - NS Client
Objectives	learning program within **AAPS** guiding you step by step from open to closed loop		Wiki - objectives
occlusion	insulin the pump releases is not fully delivered in the body => persistent very high **bg** despite (fake) high **iob** – dangerous, must be avoided! ((Often occlusions are only partial, and then dynamicISF might help a bit. But try to avoid!))		„“Occlusion..pdf“ in: https://github.com/bernie4375/HCL-Meal-Mgt.-ISF-and-IC-settings
OpenAPS	open artificial pancreas system: runs on small computers (i.e. Raspberry Pi) AAPS and iAPS use many of the OpenAPS features		OpenAPS docs
Open Loop	system will only suggest adjustments which have to be confirmed manually in the application	Closed Loop	Wiki - config builder https://loopkit.github.io/loopdocs/operation/loop/open-loop/
Open Source	philosophy to openly share product (especially, software) development without profit orientation, and not operating in narrow frameworks like mandated by e.g. regulations on medical products, (Alternatively, the prefix “DIY” is often used)	Github clinician support	
oref	the key algorithm behind OpenAPS, AAPS and iAPS. In SMB+**UAM** setting it enables looping without any carb inputs	dynamic carb absorption iOS Loop;	Wiki - sensitivity detection https://openaps.readthedocs.io/en/latest/docs/While%20You%20Wait%20For%20Gear/Understand-determine-basal.html#understanding-the-basic-logic-written-version
override	see **aggressiveness** of the loop *equivalent in oref:* -> **profile switch**		https://loopkit.github.io/loopdocs/operation/features/overrides/?h=override https://loopkit.github.io/loopdocs/operation/features/overrides/?h=exercise#create-an-override-preset

parabola fit	mathematical method used in autoISF for 1) improved smoothing and predicting of bg 2) early detection of -> **acceleration**	autoISF acceler-ation smoothing	See last page before attach-ments in https://github.com/ga-zelle/APS-what-if/blob/A3.2.0.4_ai3.0.1/Documentation%20in%20English/DRAFT%20-%20Guide%20to%20VDF%20Files%20for%20the%20AAPS%20Emulator.pdf
peak time or **time-to-peak** (minutes)	time to maximum effect of insulin given: shorter is better for looping, but also exposes bad tuning and can be unsafe (hypos!) for looping beginners	insulin kinetics	Wiki - config builder Insulin_DIA…pdf" in: https://github.com/bernie4375/HCL-Meal-Mgt.-ISF-and-IC-settings
pre-bolus	any meal containing rapid carbs will push **bg** high faster than insulin could become strongly active (nearing peak-time) to control this. Hence giving your meal bolus a number of minutes *before* meal start can be a good idea.	Meal Mgt. Calculator Eating SoonTT	„Meal Management 2 .pdf" in: https://github.com/bernie4375/HCL-Meal-Mgt.-ISF-and-IC-settings https://loopkit.github.io/loopdocs/operation/features/carbs/#time
predictions	loops look into predictions (bg in the future), not just on present **bg**, for their decisions **1).**In **oref** systems, this is based on several different calculations; eventualBG uses traditional bolus calculator math. IOBpredBGs predicts only an eventual BG value, once all insulin activity takes effect. ZTpredBGs what will happen in the "worst likely case," if observed carb absorption suddenly ceases, and a zero-temp is applied until BG begins rising at/above target. COBpredBGs is calculated based on observed deviations since carb entry, assuming that carbs would continue to be digested/absorbed at a configurable minimum rate. UAMpredBGs Once deviations have peaked, UAM calculations assume that the deviations will continue decreasing at that same rate until they reach zero. If they're decreasing, but too slowly, it assumes	insulinReq u.	1).*For AAPS see* Wiki - prediction lines https://openaps.readthedocs.io/en/latest/docs/While%20You%20Wait%20For%20Gear/Understand-determine-basal.html#understanding-the-purple-prediction-lines 2) *for iOS Loop's (one) prediction see*: https://loopkit.github.io/loopdocs/operation/algorithm/prediction/#glucose-prediction

	they'll decrease linearly to zero over 3 hours 2).for **iOS Loop**, see @ **retrospective correction**, and @ **iOS Loop**		
profile	basic treatment settings (basal rate, DIA, IC, ISF, bg target) **AAPS** v3 only supports **local profiles** but Nightscout profiles can be copied (synchronized) to AAPS *note that some profile settings might get temporarily auto-adjusted (e.g. by Autosens, or in an exercise mode).		Wiki - profile
profile switch (% other than 100)	temporary (= assigned with a duration) change of profile used reflecting percentual increase/decrease of insulin sensitivity (e.g. <<100% in an exercise context) *equivalent in iOS Loop:* -> **override**	aggressiveness of the loop	https://androidaps.readthedocs.io/en/latest/Usage/Profiles.html#profile-switch
recommended dose	with each cycle, *iOS Loop* generates a glucose prediction and a recommended dose (positive or negative) to bring you to your correction range *equivalent (but determined differently) in oref loops:* -> **insulin required**		https://loopkit.github.io/loopdocs/faqs/safety-faqs/?h=dosing#understand-delivery-limits https://loopkit.github.io/loopdocs/operation/algorithm/auto-adjust/#calculated-dose
remote control	DIY looping systems come with options for parents/caregivers to remotely control their young kids' loops, e.g. via secure SMS commands or NS Client	NS Client AAPS Client Loop Caregiver	https://androidaps.readthedocs.io/en/latest/introduction.html#remote-control https://loopkit.github.io/loopdocs/nightscout/remote-overview/
retrospective correction effect	Going forward in 5 minute steps, the loop keeps observing deviations between predicted and actually seen glucose values, and translates this into a so-called **Retrospective Correction Effect.** Assuming these effects (from different temp.insulin sensitivity than suggested by the factors, or from wrong carb inputs) will continue for some short time, the loop can improve its prediction where bg is headed, and whether insulin other-than- profile basal need is required.	iOS Loop	https://loopkit.github.io/loopdocs/operation/algorithm/prediction/#retrospective-correction-effect
resistance	above-normal insulin need, e.g. reduced sensitivity to insulin after a fatty meal	FPU sensitivity	
roller coaster	term to describe bg curves that go steep down, then up, then down again …	ISF;	

	often a result of too aggressive **ISF; dynamic** settings (ISF, bg target etc) can also increase the tendency towards r.c.	dynamic ISF, bg …	
sensitivity	below-normal insulin need, e.g. after exercise that makes you temp. more insulin sensitive	exercise resistance	
sensitivity adaptation	Rather than invariably using average sensitivity data as set in the profile, loops may be capable of: 1) ->sensitivity detection -> Autosens 2) inferring sensitivity change based on bg or TDD -> dynamic ISF 3) inferring sensitivity from bg curve characteristics (-> autoISF)		
sensivity detection	calculation of sensitivity to insulin (based on **deviations** that cannot be "explained" by **carb absorption**) as a result of exercise, hormones etc.	Autosens	DIABETTECH - Autosens
sensor noise	unstable **CGM** readings leading to "jumping" values	CGM smoothing	Wiki - sensor noise
sigmoid	uses profile ISF and adjusts it "in S-curve shape" with glucose level above target, and **TDD**. Can turn out more aggressive than standard **dynamicISF** if **Autosens** min/max is set wide open => not recommended for **iAPS** beginners	dynamic ISF	https://www.desmos.com/calculator/s9jxdmqhh8
SMB	small bolus given by the loop (advanced feature for faster bg adjustment vs **TBR**); max size restricted via setting minutes of profile basal (30 .. 120). Note that small size is a precaution for beginners against wrong ISF or bad CGM. Try to "open up" when tuning. SMBs try to give 50% of -> **insulin_requ.** (see also -> (**SMB**) **delivery ratio**). Zero basal right after a SMB is expected.	TBR *iOS Loop =* Auto()Bolus UAM iobTH	Wiki - SMB Wiki – AMA to SMB
SMB delivery ratio	defines which % (default 50 or 60%) of the calculated **insulinRequ**. shall be given now vs. waiting 5 more minutes, (and then again same % of what then is open, which includes the portion that had to wait). Caution: Using >75% not recommended as it does not provide room for **CGM** jitter, and reduces flexibility around **SMB**/**TBR** sizing to pull back on insulin delivery when required.		**FCL-e-book** section 2.3
SMB range extention	Bolus sizes the loop can give are severely restricted in **HCL** (usually to max 2x hourly basal). This factor multiplies to magnify "allowed" SMB size in **FCL**.		**FCL-e-book** section 2.1

smoothing	**CGM** systems deliver raw **bg** values that can be too "jumpy" to use. The loop system and/or intermediate app that captures the transmitter signals (1) offer options to smooth the values into a "realistic" bg curve and (2) might (!) contain internal plausibility checks. Smoother is safer (may be needed), but it slows the loop's treatment of bg rises	CGM parabola fit	https://androidaps.readthedocs.io/en/latest/Usage/Smoothing-Blood-Glucose-Data.html#smoothing-blood-glucose-data https://www.diabettech.com/cgm/back-smoothing-or-not-back-smoothing-is-that-the-question/
source code	describes how the loop works in all details DIY loops are Open Source = free access on Github = anyone can read, use and branch out/change code (-> dev variants)	apk Github	
TBR (% of profile basal)	temporary basal rate (given as % of profile basal). Note that *elevated* TBRs regulate **bg** far slower *down* than **SMB**s.	SMB	https://loopkit.github.io/loopdocs/operation/algorithm/auto-adjust/#determine-the-temporary-basal-rate
TDD (U)	total daily insulin dose (bolus + basal per day) Note that **occlusions** can produce very noticeable false high TDD values!	dynamic ISF; occlusion	
TIR (%)	% of time **bg** is in a 70 – 180 mg/dl (3.9 – 10 mmol/L) range.		
Trio	oref loop like AAPS but for i-phone -> Trio (or iAPS). Source code (apk): see **Github** Building requires Apple developer licence ($ 100/year), and Xcode.	Github Xcode iAPS AAPS	What is Trio? — Trio 0.0.1 documentation 8 https://discord.gg/Rr37aAzWz9 https://www.facebook.com/groups/diytrio
Tsunami	dev variant of AAPS involving simple **Meal Announcement (MA)** that might be stretched into a FCL		**FCL-e-book** 13.3.4; https://discord.gg/veRKcgwVUT
TT (mg/dl) or (mmol/L)	temporary target: temporary increase /decrease of **bg** target (range) e.g. for exercise, or for "eating soon" => for the loop to deliver a bit less / a bit more insulin by "shooting for" different targets. Some loops offer an option to boost this further, see under "half-basal."	half-basal exercise target	Wiki - temp targets
TT (or target) **even / odd**	some looping softwares offer to set different behaviors (SMBs allowed /blocked), with setting even/odd numbered TT (or also profile target)	SMB	
tuning	see: **individualized tuning**		

UAM	**U**n-**A**nnounced **M**eals - Detection of significant increase in **bg** levels due to meals (but also adrenaline or other influences), and attempt to adjust this with SMBs. Carb inputs are optional.	dyn.carb absorption SMB FCL	Wiki - SMB Why no carb inputs needed see section 1.2.2 in „IC (carb ratio)..pdf" in: https://github.com/bernie4375/HCL-Meal-Mgt.-ISF-and-IC-settings
UTZ, CET	time zones: The AAPS loop data are generally recorded in UTZ time (universal Greenwich time). Your AAPS screen will show your Smartphone time zone, like central European daylight saving time (CET DST).	logfiles	Wiki DST
vanilla	term often used for Master version. Advice is not to make use of extras ("bells and whistles") before the basics are tuned in right. Reason: Errors can be balanced with counter-errors => instable system)	Master	
virtual pump	option to try loop functions without a pump connected (manual enacting suggestions)	Open Loop	
_weight (-) e.g. bgAccel_ISF_weight	tuning factors used in **autoISF** to adapt **ISF** according to developing glucose curve	autoISF	**FCL-e-book**, section 4
wiki	readthedocs (docus, one for each DIY app of your looping system)		
Xcode	developer software (free, but $ 100/y developer licence) needed to complete and maintain your personal copy of **iAPS** (or **iOS Loop**)	*for AAPS:* Android Studio	https://loopkit.github.io/loopdocs/gh-actions/gh-first-time/
xDrip+	open source software to read **CGM** transmitters and pass (if desired, smoothened) values on for looping	BYODA	https://navid200.github.io/xDrip/docs/FAQ_page.html https://jamorham.github.io/#xdrip-plus https://navid200.github.io/xDrip/docs/Installation_page.html
xDrip Variant	Enables up to 4 parallel xDrip instances on smartphone	G6 x 2 (overlapping)	https://navid200.github.io/xDrip/docs/Variants.html **FCL-e-book**: Case studies 1.5 and 5.3
zero-temp(ing)	temporary basal rate with 0% (no basal insulin delivery); often seen after a bolus was given: Moving some basal (from baseline need, as defined in profile) *into the bolus or SMB* provides for fastest correction; in turn, basal supply is reduced until safe to continue		