



# **AcDC: Acute Diabetes Checklist**

The minimum that all ward staff need to know...

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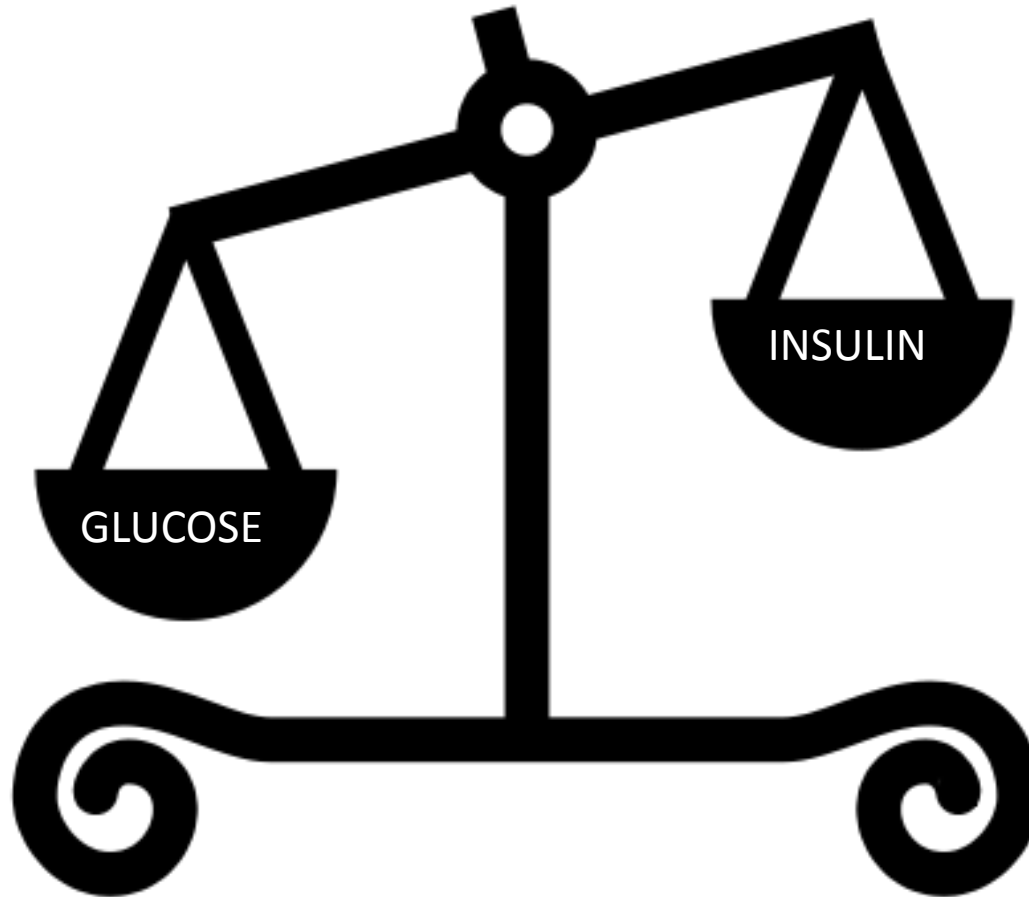
March 2020



# What is diabetes?



Persistent hyperglycaemia due to insulin deficiency, resistance or both



**Uncontrolled Diabetes = Persistent Hyperglycaemia**

# Patient with Diabetes

## Vigilance required!!



Advice available via:

- 'Microguide' app or at [www.diappbetes.co.uk](http://www.diappbetes.co.uk)

# For any unwell patient...

- ABCDE



- ABC**DEFG**

– ‘**Don’t Ever Forget Glucose**’



Persistent deranged glucose levels can increase clinical risk,  
delay clinical recovery & increase Length of Stay

# See Diabetes?

- The Emergency states not to miss or ignore..
- **See RED: 'Remember Emergencies in Diabetes'**
  - Diabetic KetoAcidosis (DKA)
  - Hyperosmolar Hyperglycaemic State (HHS)
  - Hypoglycaemia
  - Uncontrolled hyperglycaemia
  - Active Diabetic Foot disease



**Don't  
Miss!**

# What can I do to reduce diabetes risk on my ward?



# Diabetes status...

- Known Diabetes?

- Make sure all staff know
- Make sure appropriate glucose monitoring in place
- Target glucose range: 5-12mmol/L
- Make sure actions taken promptly for uncontrolled diabetes

- Not Known Diabetes?

- Inform doctor if BGL > 7.8mmol > 2hrs after food
- May need ketones +/- VBG to exclude DKA
- Should have HbA1c blood test requested & refer to Diabetes team if result >43mmol/mol



# Diabetes: Its not just the numbers...



## Language Matters

Language and diabetes



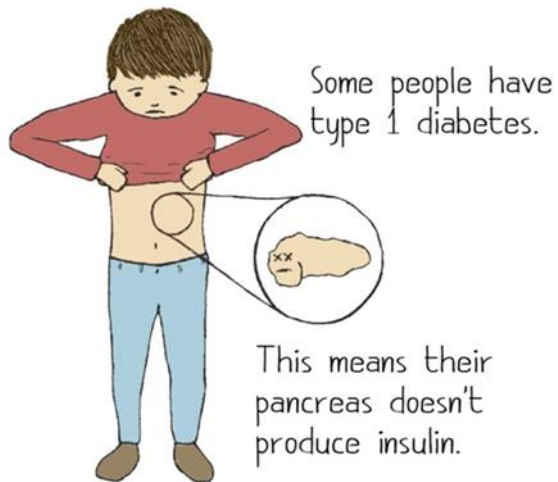
- Words matter too...
  - ‘Language Matters’
  - See the person, not just the blood results...
- Care with language and making assumptions

# Diabetes: Don't believe the type?

- Type 1 (~~'IDDM'~~) **INCREASED VIGILANCE NEEDED**
  - Type 2 (~~'NIDDM', DM2)~~
  - Type 3 ('pancreatic' diabetes, usually insulin treated +/- panc enzyme replacement)
- 
- 'Needling' - Ask if patient uses insulin
  - Frailty = increased risk?



# Not all diabetes is created equal...



# A plea for **Type 1** D!

- People with Type 1 need insulin on board at ALL times
- **'Carbohydrate counters'**, considerate rapid-acting insulin prescribing needed (menu available)
- S/c injections: usually twice daily 'Fixed Mix (fast/slow insulin combination injection with breakfast and evening meal)' or 'Basal Bolus' (1 long acting insulin AND fast insulin with meals) regimens
- CSII (personal pump) – disconnect and use VRIII if patient cannot self manage
- **Respect the patient voice**
- **Vomiting = DKA U.P.O (UK: 1 in 25 risk)**



# Acute illness

- Stress of acute operations or health problems (eg sepsis) can destabilise diabetes
- Interventions can upset diabetes control?
  - Eg steroids, feeds, reduced mobility, incorrect prescribing, delayed diabetes medicines administration
- Need to communicate effects of interventions on diabetes to the patient where relevant
- **Diabetes problems can cause symptoms:**
  - (eg vomiting/SOB = ?DKA, confusion/drowsiness = ?hypoglycaemia, HHS, foot sepsis)
  - **See Diabetes? See RED: 'Remember Emergencies in Diabetes'**

# **BGM** ~~(BM)~~

- Aim for BGL 5-12mmol/L
- **BGM** issues: 'obs stable'?
- NEWS2 –diabetes risk??
- Actions to take?
- ED/Ortho: Trauma can cause DKA!
  - Ensure appropriate BGM and follow on actions in place



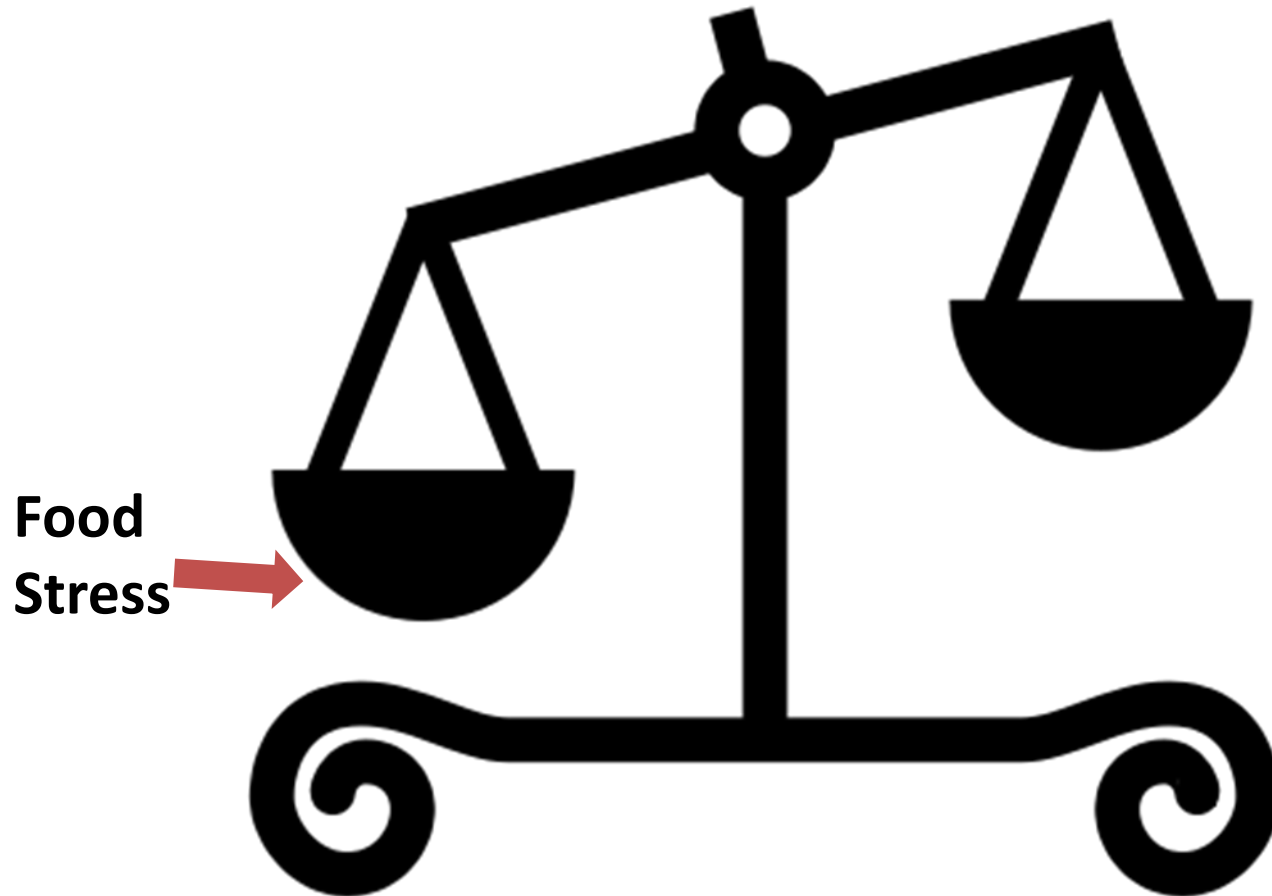
# The patient has hyperglycaemia

- Sustained BGL > 14, more than 3-4hrs
- Context? New problem? Usual diabetes control?
- 'Treat the Trend' – not 'one off' glucose spikes



Type 1 diabetes? check ketones +/- VBG to exclude DKA

# With diabetes....



**Default in Diabetes = Hyperglycaemia**



# Glucose High = Why & ?Dry

CauseS include:

- Suboptimal prescribing or medication dose adjustment
- States of diabetes emergency (eg **DKA, HHS**)
- Sepsis (**foot disease?**)
- Sedentary
- Suspected new diabetes diagnosis
- Steroids
- Supplements
- State of mind...



Assess patient and take action as needed (eg use Microguide 'Diappbetes'), ensure well hydrated

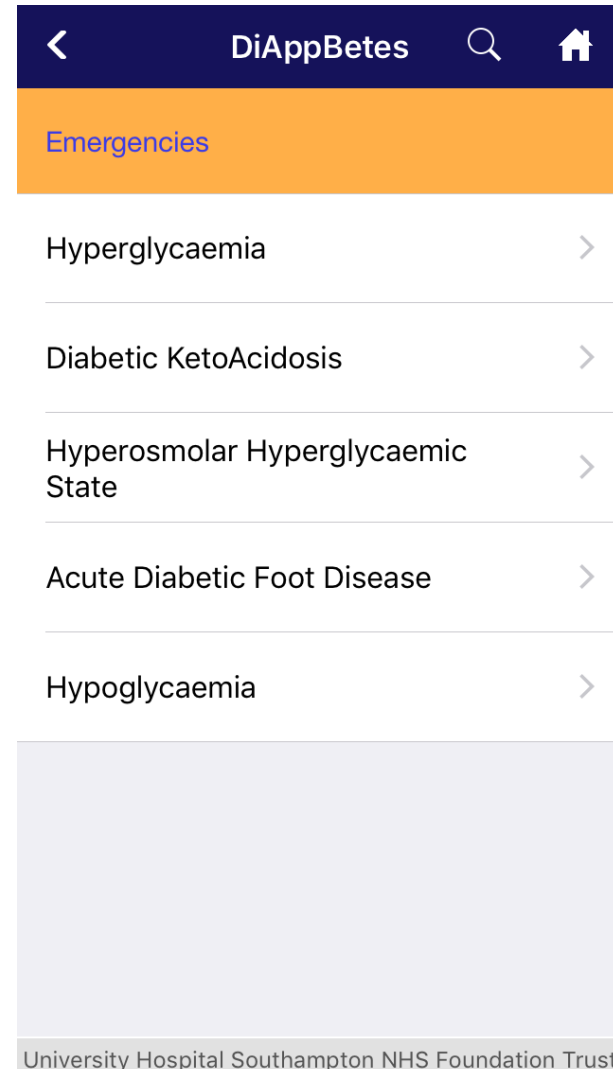
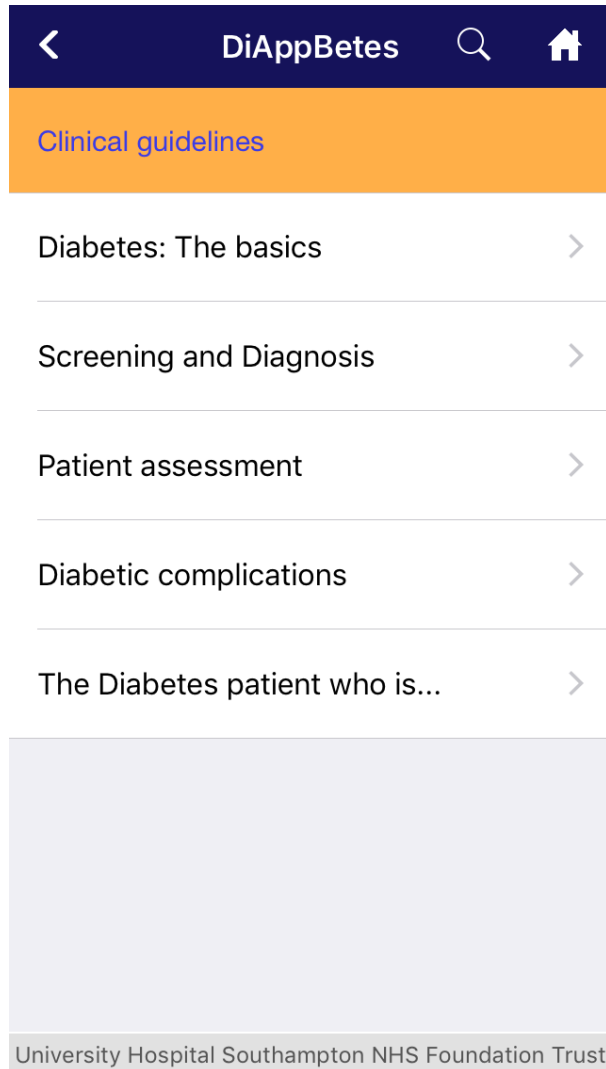
**Not just a 'stat' dose of rapid acting insulin please!**

# MicroGuide DiAppBetes

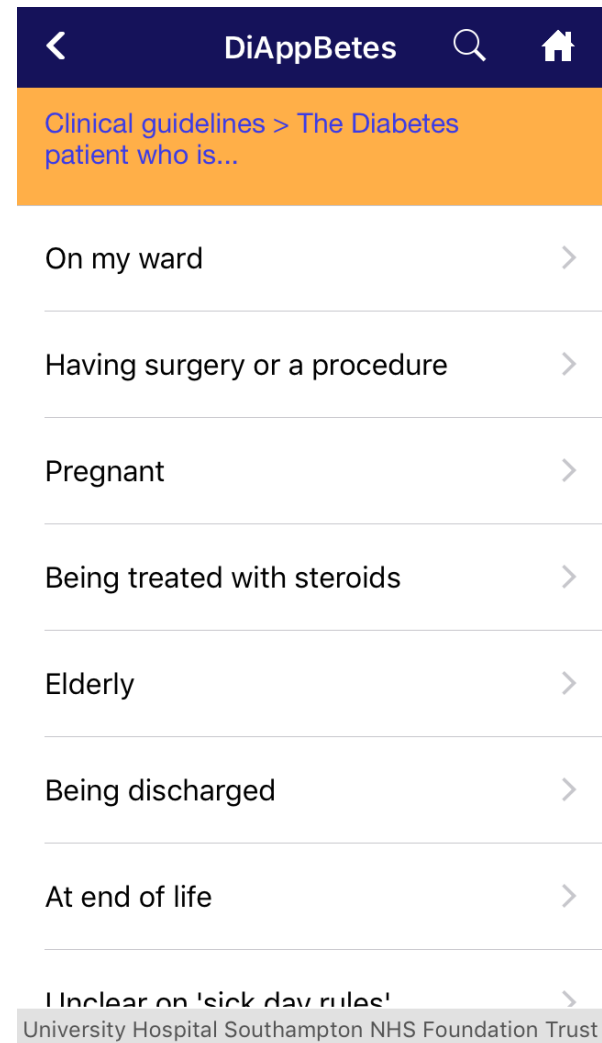
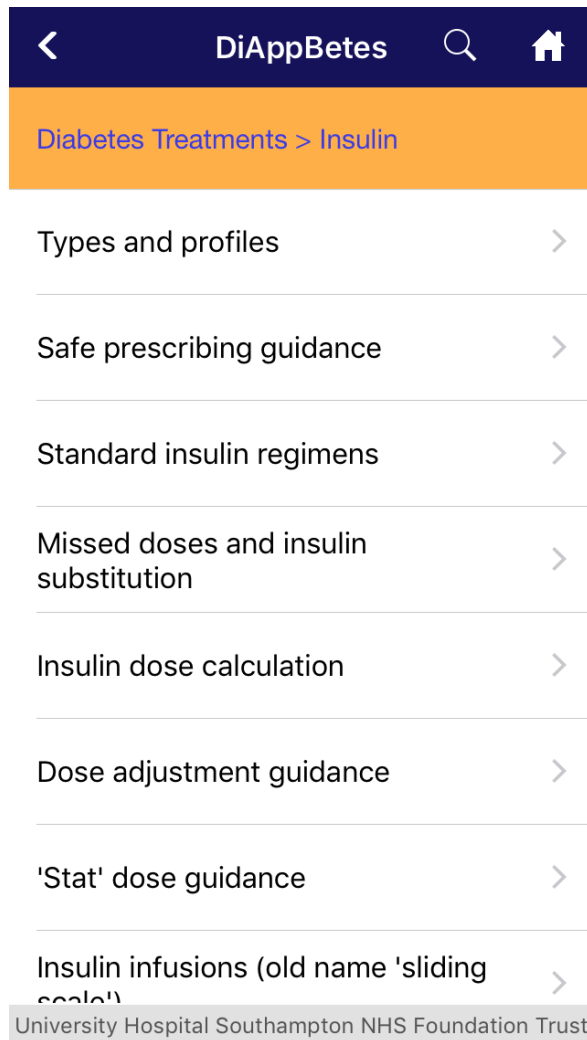
- Pocket book of sugar support
- Free to download ('microguide')

Or [www.diappbetes.co.uk](http://www.diappbetes.co.uk)

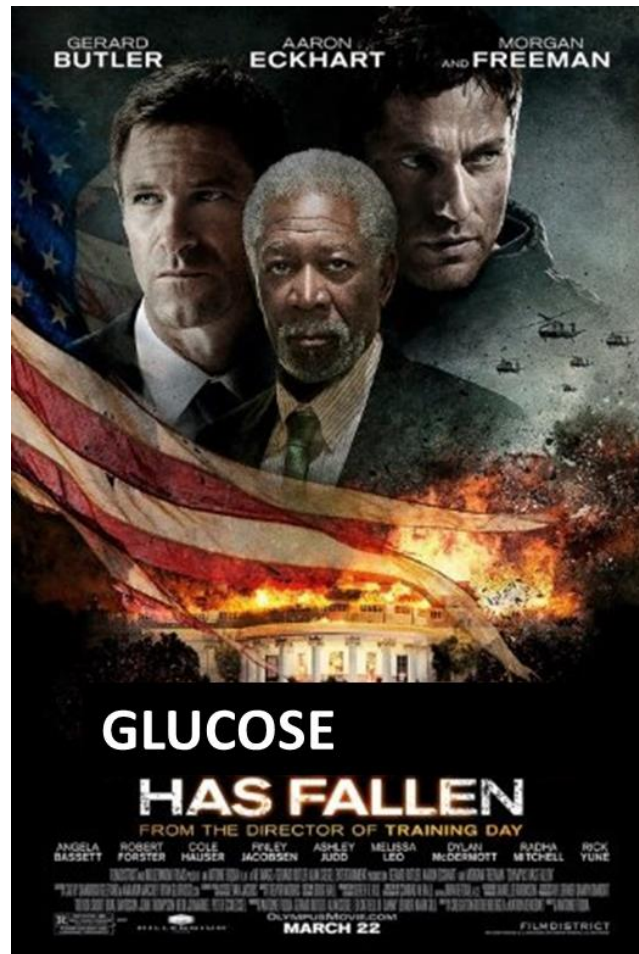
# App Screenshots (1)



# App Screenshots (2)



# What about hypoglycaemia? (BGL<4mmol/L)



# 9Rs of hypoglycaemia

- Recognise
- Respond (hypo kit? NOT 50% glucose OR IV Insulin Infusion)
- Reflect (find a cause?)
- Record & handover
- Reassess
- Renal (eGFR<30ml/min – increased hypo risk)
- Reduce risk (therapies? Leaflets, driving)
- Refer?
- Responsibility??



# E&D?

- NBM, vomiting etc
- ?needs IV insulin infusion (~~'sliding scale'~~) & appropriate BGM & glucose based fluids
  - N.b. may need to half usual hourly insulin infusion rate with AKI, frailty, low BMI (increased insulin sensitivity states)
- End of life care?
  - Priorities : symptom control, foot ulcer /bedsore prevention, simpler diabetes management

# Treatments

- Treatment
  - ‘Stop the **DAMN** dru**GS**’\*?
  - Review diabetes meds –suspend/reduce? Usually being taken?
  - Suspend Sulphonylureas (eg Gliclazide) if reduced intake/AKI to reduce hypo risk
  - How may our interventions upset DM?
  - **Frailty**: need to de-escalate for overtreatment?  
(eg low Hba1c  $\leq 48\text{mmol/mol}$  = increased hypo risk)

\*If indicated, suspend **D**iuretics, **A**ntihypertensives, **M**etformin, **N**SAIDs, **G**LP-1s, **S**GLT-2 inhibitors



# Diabetes: Medications to mention



- **Metformin**
- **Sulphonylureas** (eg Gliclazide): hypos, reduced intake)
- **SGLT2 inhibitors** ('-flozins': DKA signal (suspend if unwell))
- **GLP-1 injectables** ('-atides')
  - can delay GI transit, suspend until E and D
- **DON'T FORGET INSULIN**  
(e.g, continue usual basal (long acting) insulin alongside VRIII esp T1D)

# Education

- Education
  - For patients
  - For clinical staff (app, UHS VLE etc)
  - Early referral to diabetes team AFTER initial management steps undertaken please



# Safety..

- Safe prescribing ESPECIALLY insulin
  - Safe use of IV insulin (with BGM)
  - Type 1 diabetes care
  - SGLT2 inhibitors (DKA risk)
  - Suspend other meds if indicated
  - Focussed Foot exam
  - Frailty
  - Discharge planning
- **Symptoms & Signs** – e.g. SOB, drowsy?



**See Diabetes? See R.E.D : 'Remember Emergencies in Diabetes**

# Putting it all together...

**AcDC: The Acute Diabetes Checklist...**

**D**

- **Diabetes ?**

# D.1

- **D**iabetes ?
- Type **1** diabetes?

## D.1.A.

- **D**iabetes ?
- Type **1** diabetes?
- **A**cute issues affecting BGLs?

## D.1.A.B

- **D**iabetes ?
- Type **1** diabetes?
- **A**cute issues
- **B**lood glucose monitoring with corrective action taken



# D.1.A.B.E

- **D**iabetes ?
- Type **1** diabetes?
- **A**cute issues
- **B**lood glucose monitoring with corrective action taken
- **E**ating & drinking, End of Life

# D.1.A.B.E.T

- **D**iabetes ?
- Type **1** diabetes?
- **A**cute issues
- **B**lood glucose monitoring with corrective action taken
- **E**ating & drinking, **E**nd of Life
- **T**reatment

# D.1.A.B.E.T.E

- **D**iabetes ?
- **T**ype **1** diabetes?
- **A**cute issues
- **B**lood glucose monitoring with corrective action taken
- **E**ating & drinking, **E**nd of Life
- **T**reatment
- **E**ducation

# **‘D.1.A.B.E.T.E.S.’**

- **D**iabetes ?
  - Type **1** diabetes?
  - **A**cute issues
  - **B**lood glucose monitoring with corrective action taken
  - **E**ating & drinking, End of Life
  - **T**reatment
  - **E**ducation
  - **S**afety
- 
- Could this work in your area to help focus the mind on diabetes?

Thanks