College Bound

Ready, Set, Go, College!

Suruchi Bhatia, MD
Pediatric Endocrinology
John Muir Health + Stanford Children’s Health
Disclosures

- I have no financial relationships pertinent to this presentation to disclose
Going to College with Diabetes
A Self Advocacy Guide for Students (2011)
Katharine Gordon James A. Rapp Brian L. Dimmick Crystal Jackson

Type 1 Teens by Korey Hood, PhD
Diabetes tasks: transitioning from parent to child

- Remembering day of clinic appointment
- Telling teachers about diabetes
- Remembering to take am/pm injections
- Or bolus if on an insulin pump
- Making appointments with dentist/other doctors
- Telling friends about diabetes
- Taking more or less insulin according to results on the blood glucose monitor
- Calling the pharmacy to refill a prescription
- Noticing the early signs of an hypoglycemia
- Giving insulin injections or bolus
- Deciding what should be eaten when family has meals out (restaurant, friend’s home)
- Carrying some form of sugar in case of low BG
- Explaining absences from school to teachers or other school personnel
- Rotating injection sites or infusion set-ups (pump)
- Remembering times when BG should be monitored
- Checking expiration dates on medical supplies

Anderson’s Diabetes Family Questionnaire
Getting to college: Standardized Tests

- For standardized tests apply even 6 months in advance
  - www.collegeboard.com
  - www.act.org

- Can have more frequent or longer breaks, but not more test taking time

- For school exams can have more accommodations
  - Snacks during test
  - Check BG during exam
  - Consider CGM
Getting to college: Scholarships!

- [https://collegediabetesnetwork.org/content/scholarships](https://collegediabetesnetwork.org/content/scholarships)
  - Diabetes Scholars Foundation Scholarships
  - Novo Nordisk Donnelly Awards
  - Scott and Kim Verplank Foundation
  - Frederick J. Krause Scholarship on Health and Disability
  - Team Type 1 Scholarships
  - Diabetes Incorporated
Preparing for College

You should do the following before you leave for college:

- Discuss transition plans at appointments with your diabetes health care professionals
- Schedule follow-up visits ahead of time so you can be seen during semester breaks
- Be sure to have prescriptions filled
  - (can your Rx be transferred to a local pharmacy?)
- Ask for a copy of important medical records
- Know when your annual labs and eye exam are due
Preparing for College

- You should ask the student health clinic the following:
  - When the clinic is open
  - Whether there is a diabetes specialist on staff
  - What to do in case of emergency

- If you currently have health insurance, you should find out the following about your health insurance plan:
  - How long you can expect to have coverage through this plan and under what conditions (for example, if it is dependent upon maintaining full-time student status)
  - Whether your policy covers emergency services
  - Whether your policy covers out-of-state check-ups
  - Whether there is a waiting period for any services
  - Whether there are pre-existing condition limitations
If you do not have health insurance, you should find out your coverage options, including:

- Whether there is a student health insurance plan available at your college
- Whether there are pre-existing condition limitations on any plan you are considering
- If you are turned down for a private health insurance plan, whether there is any state plan
- Or high-risk plan available to you
What can parents do...

- Start and support preparations for transition as early as high school
- Help with prescriptions and supplies
- Help with setting up follow up appointments
- Consider getting HbA1c checks locally
- Care packages with carb snacks 😊
Know your team-

- Social worker
- CDE
- Nutritionist
- Psychologist
- Physician
- Your friends and family

Who will be on your team at college?
Initial steps

- Look at the colleges anti-discriminatory policies
- Apply through the disability services office
- Consider informing roommate, professors, RA
- Consider a plan to take breaks for snacks or checking one’s BG’s
- **Consider priority housing and early registration**
- Know where the health clinic is or the local ER’s
- Colleges may not do a 504, but rather will provide an “accommodations letter”.
accommodation letter

- Inform anti-discrimination personnel, principal, or school nurse
- Provide consent so that they can talk with your medical team
- Provide all the supplies (ie equipment/supplies, snacks, insulin)
- Be a resource (you can provide training)
- Make sure at least one staff member is trained and available to give insulin or glucagon
- Keep a log of all relevant communications, conversations
Purpose of the request

Limitations caused by the disability

How the condition will affect the skills and abilities expected of the student – including both life and academic skills and abilities

The types of accommodations requested

Provide medical documentation of the disability

Offer to participate in any needed evaluation or meeting to discuss accommodations
When there is a problem

- Designated personnel or Dean of Students
- Mediation
- Internal school or district grievance procedures
- Impartial hearings
- Lawsuits in state or federal court
The Law is on your side

- American with Disabilities Act (ADA)
- Section 504 of the Rehabilitation Act (Section 504)
Diabetes and Alcohol

Risky Business!
The Laws

- States that allow alcohol at 18 years old *with parental consent* on private property
  - Alaska, Colorado, Connecticut, Delaware, Georgia, Illinois, Iowa, Kansas, Louisiana, Maine, Maryland, Massachusetts, Minnesota, Mississippi, Montana, Nebraska, Nevada, New Jersey, New Mexico, New York, Ohio, Oklahoma, Oregon, South Carolina, Texas, Virginia, Washington, Wisconsin, Wyoming

- States that allow alcohol at 18 years old *without parental consent* on private property
  - Louisiana, Nebraska, Nevada, New Jersey, Oklahoma, South Carolina
• Drinking below the age of 21 is illegal in most states including California
Our defense against hypoglycemia

Pancreas Response
- ↓ Insulin
- ↑ Glucagon

Autonomic Response
- Shaky
- Palpitations
- Anxious
- Sweating
- Hunger
- Numbness

Brain Alert
- Warmth
- Weakness
- Fatigue
- Confusion

~ 72-108 mg/dL

~ 65-70 mg/dL

~ 50-55 mg/dL
Our defense against hypoglycemia

- Glycogenolysis
  - Release of sugar stores from the liver and muscles
    - Decrease insulin
    - Increase glucagon
    - Increase of counter-regulatory hormones

- Gluconeogenesis
  - Formation of glucose from non-carbohydrate carbon precursors

- Ingesting glucose
The Problem with hypoglycemia and diabetes

- Can’t suppress insulin once it’s given
- Glucagon release may be impaired
- Insulin sensitivity increases with exercise
- Exercise can attenuate release of counter-regulatory hormones
- Alcohol intoxication may prevent you from eating
Gluconeogenesis vs. Glycogenolysis

Glycerol
Amino Acids
Pyruvate

Glycogenolysis

Gluconeogenesis

Glucose
Gluconeogenesis vs. Glycogenolysis

Glycogenolysis

Glycerol
Amino Acids
Lactate
Pyruvate

Glucose
To Drink or not to Drink...

- **The Good**
  - In moderation may have benefits to the heart
  - ADA recommendations
    - No more than one drink* for women/day
    - Up to two drinks for men/day

*One drink is equal to a 12 oz beer, 5 oz glass of wine or 1 ½ oz distilled spirits (vodka, whiskey, gin, etc.)
To Drink or not to Drink…

- The Bad
  - Worsens hypertriglyceridemia, neuropathy, hypertension
  - Can cause hypoglycemia
  - Can cause short term memory loss
  - Hangovers 😞
  - Effects on still-developing brains
Alcohol and glucose metabolism

- Low BG vs “feeling tipsy”
- Alcohol prevents gluconeogenesis
- Alcohol doesn’t effect glycogenolysis, so make sure the liver is “all carbed up”
  - Eat before, during, and after
Into the Night…

- Effects of alcohol on glucose metabolism can last up to 16 hours
  - Decrease overnight basals by 20%, more if there was a lot of exercise
  - Take a carb snack without insulin if BG < 120 mg/dL at bedtime

- Exercise also increases insulin sensitivity
How much is too much?

- Cocktails, mixers, lagers, ciders, and beer tend to have higher carb loads
  - May need to take insulin for these but at a lower dose
    - 25% less (this may include for food one is eating)
    - 50% less or more if dancing is going on etc...
  - Don’t bolus for more than 2 bottles of beer
  - If you give insulin for corrections would give 3 hours apart and correct by only 50%
Some takeaways...

- Dry white wines, liquors, and spirits have a small amount of carbs
  - Low calorie mixers
  - Remember no carbs, but still high in calories
    - Vodka has almost a 100 calories/shot
- Watch out for Craft beers, can have twice the carbs
Other tips

- **Have a designated buddy**
  - To drive and/or get your back

- **Have a cap... (and stick to it)**

- **Keep your glass half full; drink slow**

- **Mix one’s drink with a diet soda**

- **Make sure to hydrate with water**

- **Wear your Medi-alert bracelet, necklace, tattoo, etc...**
The End...
Good Luck with all Your Future Endeavors! CHEERS!
ADDENDUM and Resources
Americans with Disabilities Act (ADA) of 1990

- Prohibits non-religious affiliated institutions from treating individuals with disabilities unfairly
  - Disability – a “physical or mental impairment that substantially limits one or more major life activities.”
- Applies to all public (Title II) and private schools (Title III)
Section 504 of the Rehabilitation Act of 1973

- Protects the student if the school receives federal funding
- Applicable whether public or private unless the institution is run by a religious organization
  - Unless religious organization has federal funds, which most institutions have because of:
    - Meal programs
    - Scholarships
    - Grants
Tests

- For standardized tests apply even 6 months in advance
  - www.collegeboard.com
  - www.act.org

- Can have more frequent or longer breaks, but not more test taking time

- For school exams can have more accommodations
  - Snacks during test
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  - Consider CGM
Helpful contacts

- College Board Services for Students with Disabilities (PSAT, SAT, and AP):
  - (609) 771-7137
  - www.collegeboard.com/ssd/student/index.html (general information)
  - professionals.collegeboard.com/testing/ssd/accommodations/breaks (guidance on breaks)

- ACT Services for Students with Disabilities:
  - (319) 337-1000
  - http://www.act.org/aap/disab
Colleges vs K-12 schools

- Colleges have no requirement to identify those with a "disability"

- While elementary and secondary schools have to provide "a free and appropriate education" if they receive federal funding, colleges cannot discriminate once a student has "qualified" academically for admission to the school.

- Colleges are not required to provide modifications that would impose an undue burden or fundamentally alter a program.

- Colleges don't have to help assist in providing health services.
Legal Recourses

- **Complaints in re Section 504 and ADA**
  - Dept. of Education - Office of Civil Rights (180 day statute aside from waiver) for Section 504
    - Mail, fax, on-line, in person (800-421-3481)
    - [www2.ed.gov/about/offices/list/ocr/complaintprocess.html](http://www2.ed.gov/about/offices/list/ocr/complaintprocess.html)
  - Dept. of Justice for ADA - 800-514-0301 (though for public schools through OCR)
    - [http://www.usdoj.gov/crt/ada/t3compfm.htm](http://www.usdoj.gov/crt/ada/t3compfm.htm)
- Impartial hearing at district or state level
  - Applies to IDEA as well

- The Equal Employment Opportunity Commission (EEOC) investigates complaints of discrimination under the ADA by employees and applicants against employers.
Legal Resources

- Disability Rights Education and Defense Fund, Inc. (DREDF)
  - A national law and policy center dedicated to protecting and advocating for the civil rights of people with disabilities
  - Info: 510-644-2555
  - Web: www.dredf.org/diabetes

- www.diabetes.org (under advocacy)
More Resources...

- Council of Parent Attorneys and Advocates
  - http://www.copaa.net
  - National Disability Rights Network -(202) 408-9514
    - http://www.ndrn.org

- National Dissemination Center for Children & Youth With Disabilities - 800-695-0285
  - http://www.nichcy.org