



Canadian Cystic Fibrosis Conference

September 17-19, 2025

Clinical perspectives on CFRD and emerging related comorbidities

Presenter: Adèle Coriati



w/o limits



CFRD

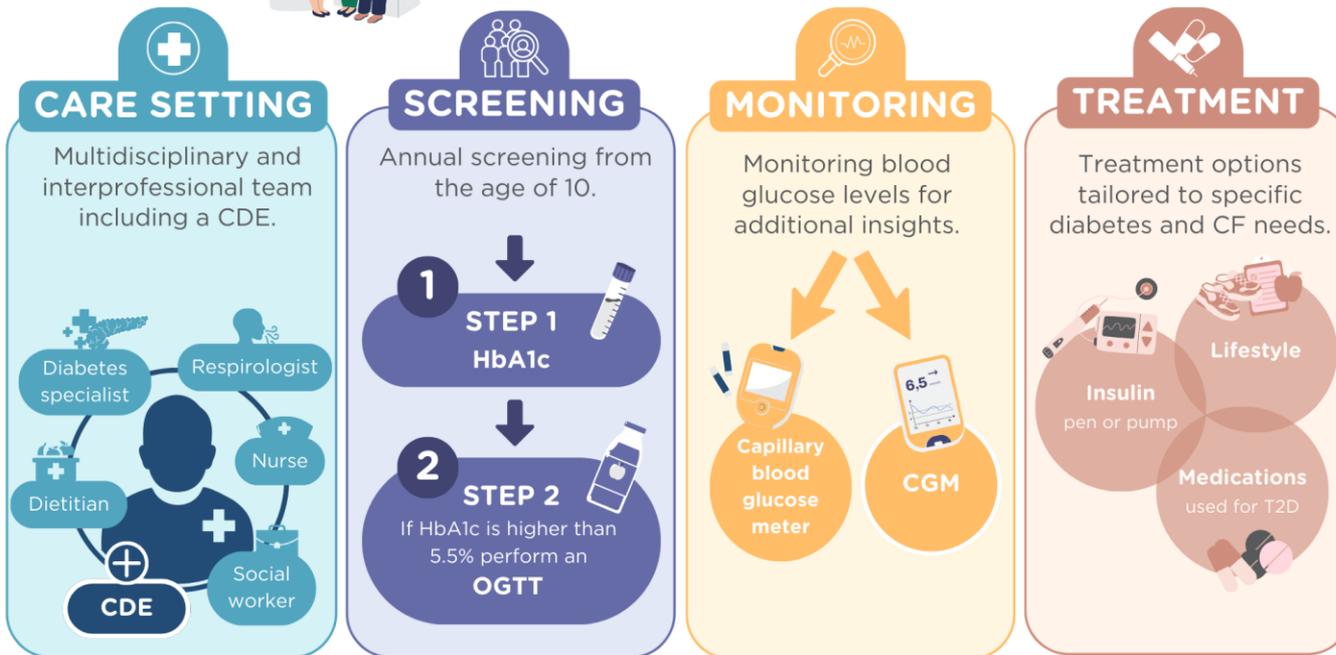
Clinical perspective



Key recommendations of the Canadian Clinical Guidelines on Cystic Fibrosis-Related Diabetes



Recommendations developed through a joint effort between **CF specialists** & **people living with CF**.



In partnership with



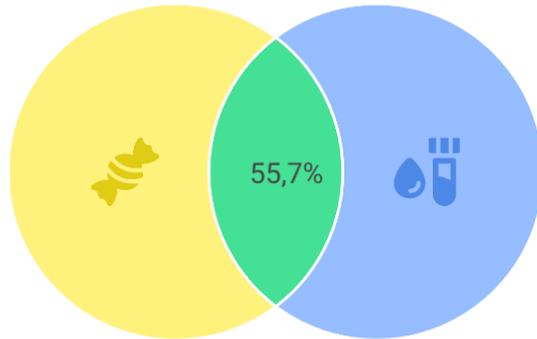
CFRD Screening - Montreal CF Cohort (2016-2019)

N=96, median follow-up of 26 months



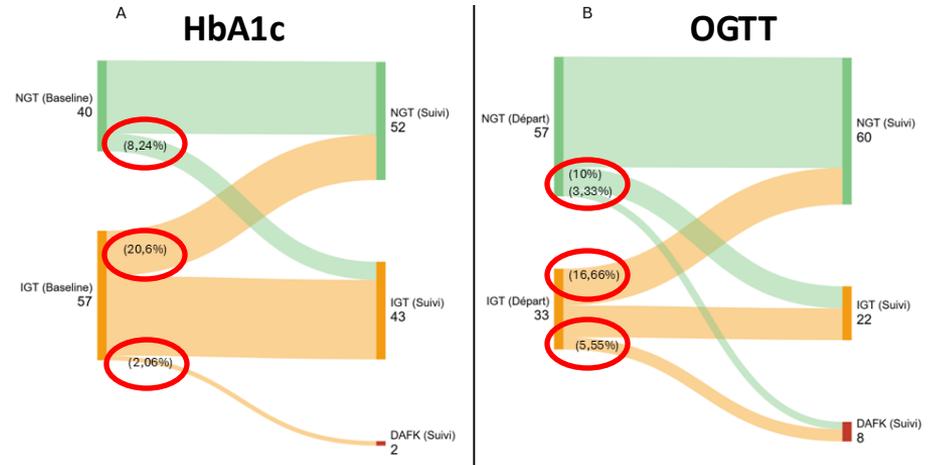
Josh Gharib

Diagnostic concordance



Diagnostic HbA1c

Variability of glucose tolerance status



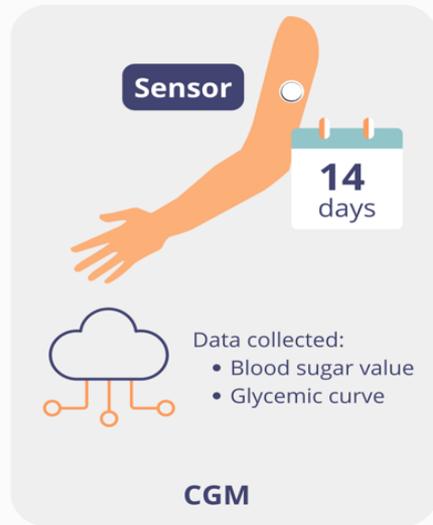
Total of 192 visits

HbA1c is good, but not perfect!

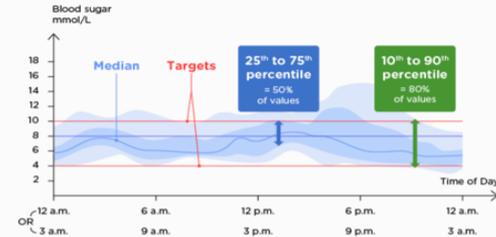
Unpublished data

What about the Continuous glucose monitoring system as a screening tool?

Continuous Glucose Monitoring (CGM) System and Data Collection



Shipment of the CGM and then data analysis when received



Trends



14 days

Ambulatory Glucose Profile (AGP)

PROSPEC study



Dre Laure
Alexandre-
Heymann

In revision, JCF

Continuous glucose monitoring is a good indicator of glucose tolerance in cystic fibrosis

107 participants with Cystic Fibrosis from Lyon, Strasbourg and Montreal



63% treated with **E/T/I**
(CFTR modulator)

Baseline data from a prospective study

OGTT	Blood tests	Continuous glucose monitoring
 Blood glucose before and 2 hours after glucose beverage	 HbA1c Fructosamine	 Continuous data over 14 days
Normal Glucose tolerance : 68% Impaired Glucose tolerance : 22% De novo Cystic Fibrosis Related Diabetes : 9%		

CFRD at OGTT associates with...

HbA1c

Time spent **above 10** mmol/L

Time spent **above 7.8** mmol/L



ROC AUC:
0.61

ROC AUC:
0.87

ROC AUC:
0.88

Similar results in the subgroup treated with E/T/I



Spending **more than 7%** or **10%** of the time **above 7.8 mmol/L** is associated with the presence of **IGT** (PPV: 36.5%, NPV: 97.9%) or **CFRD** (PPV: 18.9%, NPV: 100%), respectively

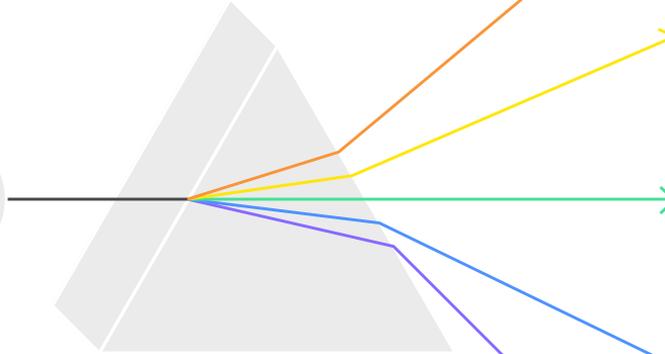
E/T/I: Elexacaftor/Tezacaftor/Ivacaftor. OGTT: Oral Glucose Tolerance Test. CFRD : Cystic Fibrosis Related Diabetes, IGT: Impaired Glucose Tolerance. PPV : Positive Predictive Value. NPV: Negative Predictive Value.



Emerging comorbidities



**Emerging Cardiometabolic
Complications in
CF**



**Glucose
Metabolism**

- Glucose
- Insulin
- CFRD prevalence



Lipid Metabolism



**Body
Composition &
Weight**

- overweight/obesity
- Fat mass



Cardiovascular Health

- Blood pressure
- Hypertension



**Bone & Mineral
Metabolism**

The Impact of Elexacaftor-Tezacaftor-Ivacaftor on Cardiometabolic Outcomes: A Systematic Review



Heather Girouard
In revision, ERR

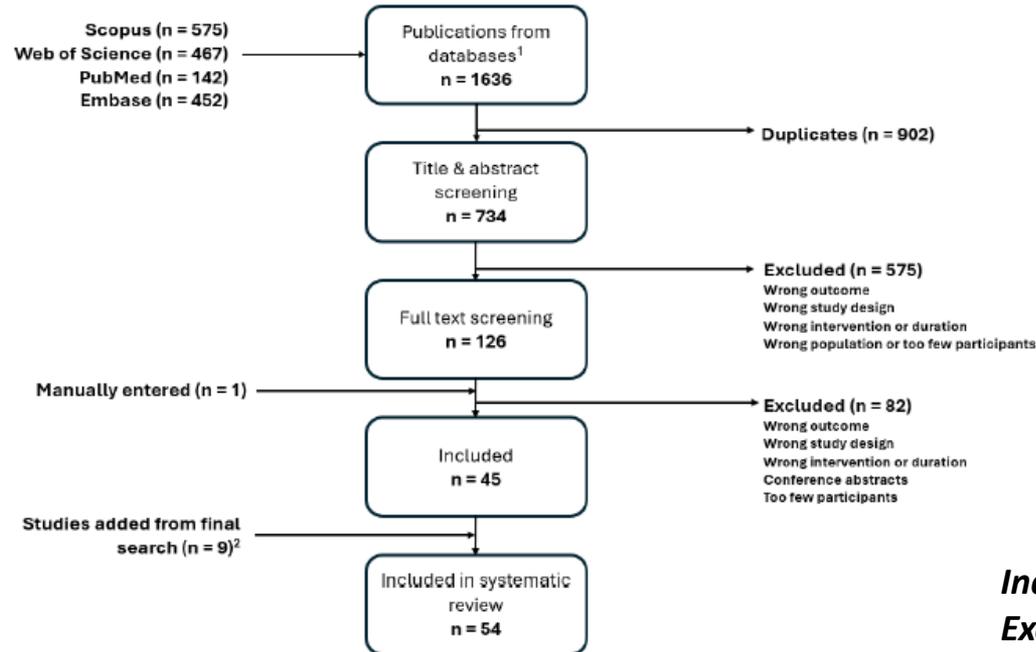


Figure 1: Flow chart illustrating systematic search.

Note: ¹Initial search conducted December 31, 2024; ²Final search conducted June 24, 2025

Included: published after 2010

Excluded: <10 participants, non-empirical publications, <4 months mean treatment

Overall observations

Glucose, insulin & diabetes prevalence	<i>29 publications</i> ↓ Glycated hemoglobin, little change in continuous glucose monitoring results and glucose tolerance and prevalence of CFRD Mixed results: insulin resistance (↑ or no change)
Overweight and obesity	<i>14 publications</i> ↑ Prevalence of overweight and obesity eg, 28% to 41% over 5.3 months
Body composition	<i>9 publications</i> ↑ Fat mass Mixed results: Fat free mass, visceral fat area and others
Lipid profile	<i>13 publications</i> ↑ Total cholesterol & LDL-cholesterol Mixed results: HDL (↑ or no change) & triglycerides (generally no change)
Blood pressure and hypertension	<i>11 publications</i> ↑ Systolic & diastolic blood pressure, ↑ Prevalence hypertension

What does this mean?

There is an emerging focus on cardiometabolic parameters & complications post Trikafta.

Studies of longer treatment periods and larger sample sizes are needed.

Perhaps nutritional recommendations should be revisited in the current context of Trikafta.



Sneek peak!

Preliminary data from CF Canada/Diabetes Canada Seed grant 2025
"Predicting CFRD using lipidomic signatures"



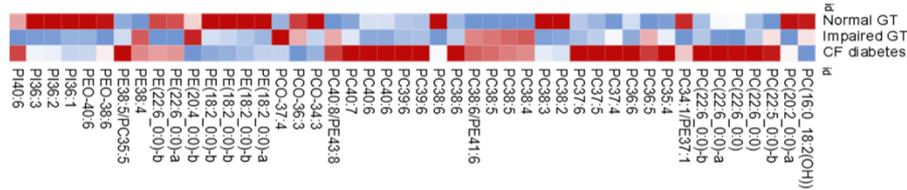
Lipidic profiling reveals distinct signatures across glucose tolerance groups in adults from the MCFC.



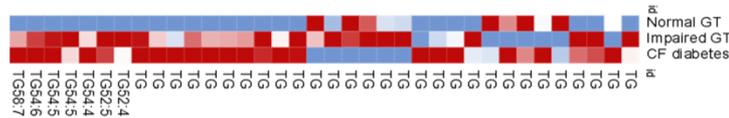
Dr Matthieu Ruiz

Heatmap

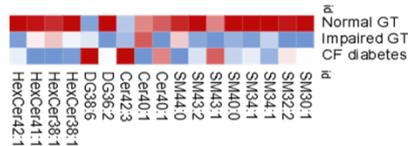
Glycerophospholipids



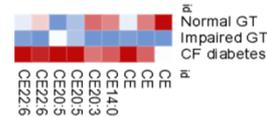
Glycerolipids



Sphingolipids



Cholesteryl esters



Plasma samples from 30 pwCF, 10 for each glucose tolerance status
 Untargeted lipidomics: lipidomic-mass spectrometry (MS)-based workflow

What's next?
 Impact of modulators!

Adjusted for age, sex and weight

Unpublished data

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Thank You.

