

Keep it simple –

Diabetes Einstellung einfach gemacht

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Lahr 2018



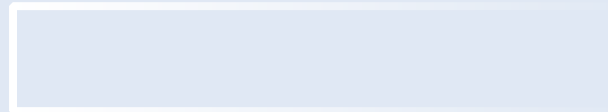
Diagnose

Blutzuckermessung

Urinstix

Tests	Results / Resultats / Resultados / Ergebnisse									
Leucocytes/Leucocytes ocitos/Leukozyten	<table border="1"> <tr> <td>neg</td> <td>trace</td> <td>+70</td> <td>**125</td> <td>***500</td> <td>WBC/μL</td> </tr> </table>	neg	trace	+70	**125	***500	WBC/ μ L			
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Nitrite/Nitritos Nitrit	<table border="1"> <tr> <td>neg</td> <td>trace</td> <td>pos.</td> <td></td> <td></td> <td></td> </tr> </table>	neg	trace	pos.						
neg	trace	pos.								
Urobilinogen/Urobilinogéno	<table border="1"> <tr> <td>0.1</td> <td>Normal</td> <td>1(16)</td> <td>2(32)</td> <td>4(60)</td> <td>8(120)</td> <td>mg/dl (μmol/L)</td> </tr> </table>	0.1	Normal	1(16)	2(32)	4(60)	8(120)	mg/dl (μ mol/L)		
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Protein/Proteínas Proteinas	<table border="1"> <tr> <td>neg</td> <td>trace</td> <td>*300.0</td> <td>**1001.0</td> <td>***3003.0</td> <td>****10001.0</td> <td>mg/dl(g/L)</td> </tr> </table>	neg	trace	*300.0	**1001.0	***3003.0	****10001.0	mg/dl(g/L)		
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pH	<table border="1"> <tr> <td>5</td> <td>6</td> <td>6.5</td> <td>7</td> <td>7.5</td> <td>8</td> <td>8.5</td> </tr> </table>	5	6	6.5	7	7.5	8	8.5		
5	6	6.5	7	7.5	8	8.5				
Blood/Sang Sangre/Blut	<table border="1"> <tr> <td>neg.</td> <td>Hemolysis</td> <td>trace</td> <td>+25</td> <td>**80</td> <td>***200</td> <td>non Hemolysis</td> <td>***800</td> <td>RBC/μL</td> </tr> </table>	neg.	Hemolysis	trace	+25	**80	***200	non Hemolysis	***800	RBC/ μ L
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S.G./Densité insidad/Spec. Gew.	<table border="1"> <tr> <td>1.000</td> <td>1.005</td> <td>1.010</td> <td>1.015</td> <td>1.020</td> <td>1.025</td> <td>1.030</td> </tr> </table>	1.000	1.005	1.010	1.015	1.020	1.025	1.030		
1.000	1.005	1.010	1.015	1.020	1.025	1.030				
Ketones/Cétonas tones/Ketonkörper	<table border="1"> <tr> <td>neg</td> <td>± 510.0</td> <td>+151.0</td> <td>++253.0</td> <td>+++80.0</td> <td>****160.0</td> <td>mg/dl(mmol/L)</td> </tr> </table>	neg	± 510.0	+151.0	++253.0	+++80.0	****160.0	mg/dl(mmol/L)		
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Bilirubin/Bilirubine Bilirubina	<table border="1"> <tr> <td>neg</td> <td>+</td> <td>**</td> <td>***</td> <td></td> <td></td> <td></td> </tr> </table>	neg	+	**	***					
neg	+	**	***							
Glucose/Glucosa	<table border="1"> <tr> <td>neg</td> <td>± 1005.0</td> <td>+250.0</td> <td>***500.0</td> <td>****1000.0</td> <td>*****2000.0</td> <td>mg/dl(mmol/L)</td> </tr> </table>	neg	± 1005.0	+250.0	***500.0	****1000.0	*****2000.0	mg/dl(mmol/L)		
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Nüchtern glukose

< 100 mg%

100 – 125 mg%

> 126 mg%

normal

gestörte Glukosehomöostase

Diabetes

Gelegenheitsblutzucker

>200 mg%

Diabetes

OGTT

< 100 mg%

< 140 mg% (2 h)

140-199 mg% (2 h)

> 200 mg% (2 h)

normal

normal

gestörte Glucosehomöostase

Diabetes

HbA1c

5,7%

5,7 – 6,4%

> 6,5%

normal

gestörte Glucosehomöostase

Diabetes



Diabetestyp

Typ 1 Diabetes

Typische Symptome: Polyurie, Polydipsie,
Gewichtverlust und Ketoazidose

vor dem 30. Lebensjahr

AK vermittelt

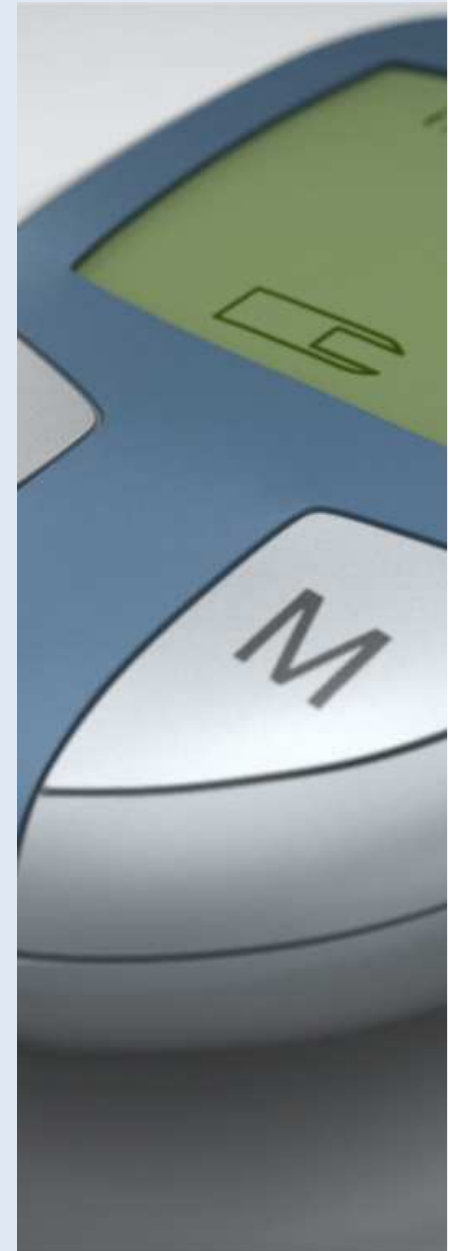
LADA

nicht unbedingt typische Symptomatik

Alter nach dem 30. Lebensjahr

AK vermittelt

AK: Inselzell-AK, Insulin-AK, Tyrosinkinase IA 2- AK,
Glutamatdecarboxylase-AK (GAD),



Typ 2 Diabetes

ca 90% der Diabetiker

schleichender Beginn, höheres Alter, meist
Übergewichtig

Insulinresistenz

Typ 3 Diabetes

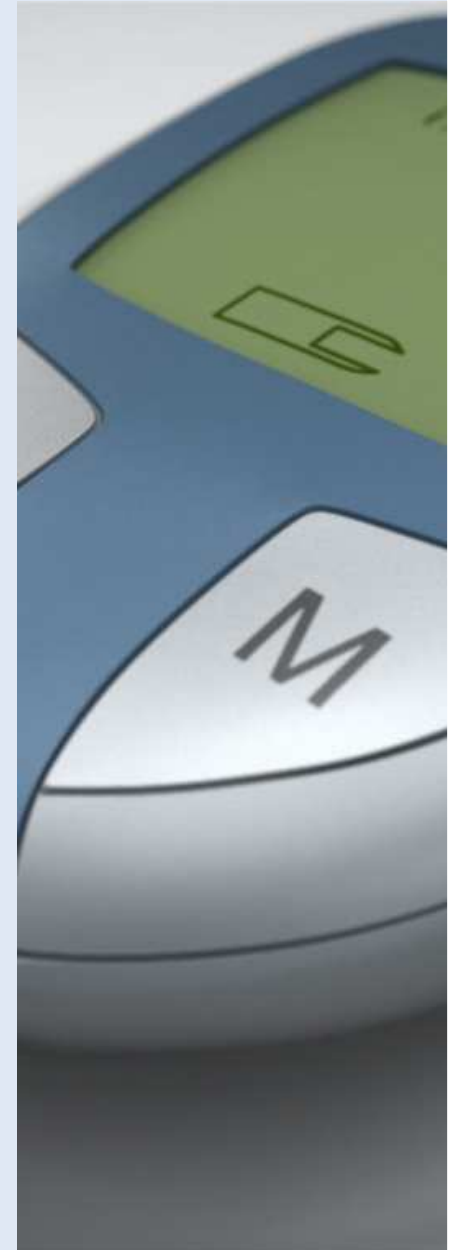
MODY 1-4%,

Typ 1 – 13, häufigste Typ 2 und 3

frühe Manifestation (< 35.Lebensjahr), Fehlen von
AK, Diabetes in mind. 2 Generationen vorliegt,
BMI < 25

Typ 4 Diabetes

Gestationsdiabetes



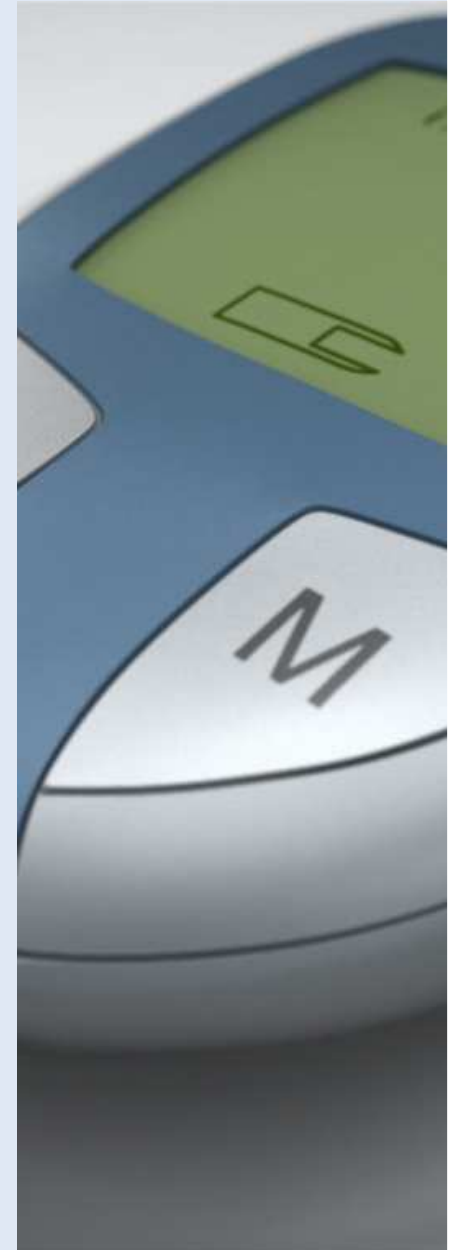
Therapie

Grundlage

Schulung /Beratung

Ernährungsberatung

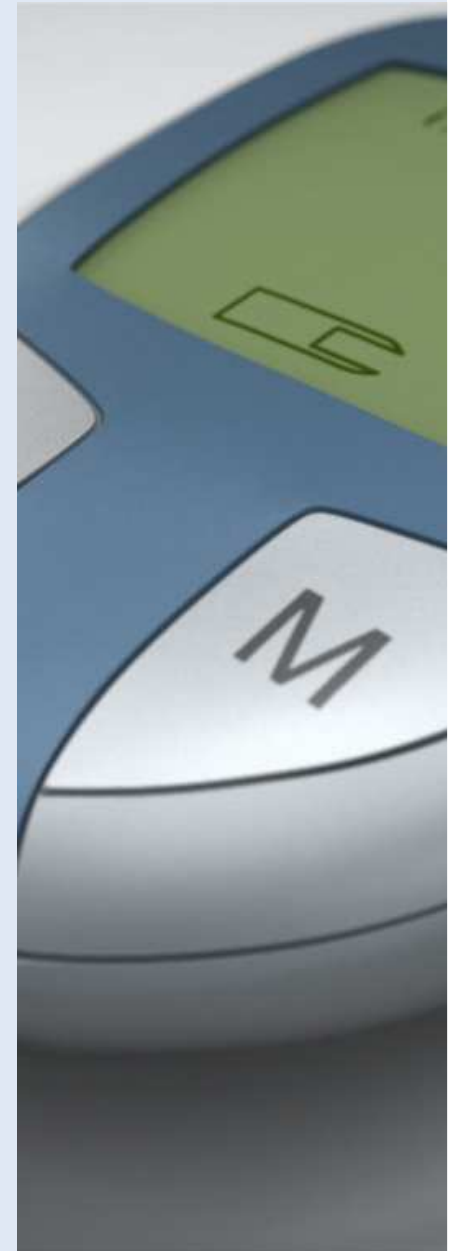
Bewegung

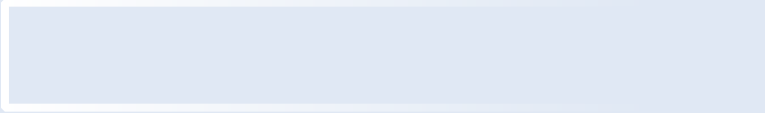


Medikation

Nicht insulinotrope Substanzen(HbA1C)

Alpha-Glucosidasehemmer	(0,5 – 0,8 %)
Acarbose (Glukobay), Miglitol (Diastabol)	
Biguanide	(1 – 2 %)
Metformin	
Glitazone	(0,5 – 1,4 %)
Pioglitazon (Actos)	
SGLT-2-Hemmer	(0,5 – 1%)
Dapagliflozin (Forxiga), Empagliflozin (Jardiance)	





Insulinotrope Substanzen (HbA1C)

Sulfonylharnstoffe (1 – 2 %)
Glibenclamid (Euglucon), Glimiperid (Amaryl)

Glinide (0,5 – 1,5 %)
Repaglinid (Novonorm), Nateglinid (Starlix)

DPP-4-Hemmer (0,5 – 0,8 %)
Sitagliptin (Januvia / Xelevia),
Vildagliptin (Galvus), Saxagliptin (Onglyza)



GLP-1- Rezeptoragonisten (HbA1c)

Prandiale (0,5 – 1 %)

Exenatid (Byetta) 2 x tgl.

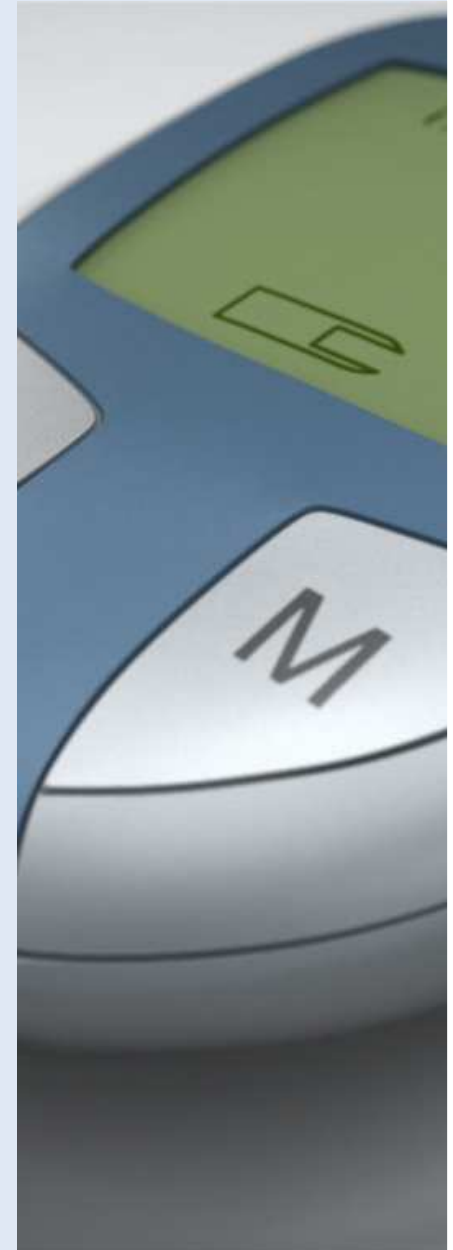
Kontinuierliche

Exenatid LAR (Bydureon) 1 x wöchtl.

Liraglutid (Victoza) 1 x tgl.

Albiglutid (Eperzan) 1 x wöchtl.

Dulaglutid (Trucility) 1 x wöchtl.



Insuline

Normalinsuline

Berlininsulin, Huminulin, Actrapid, Insuman rapid

Analoginsuline

Liprolog, Humalog, Novorapid, Apidra

NPH-Mischinsuline

Berlinsulin 30/70, Huminilin Profil III, Actraphane 30 / 50,
Insuman comb 15 / 25 / 50

Analog-Mischinsuline

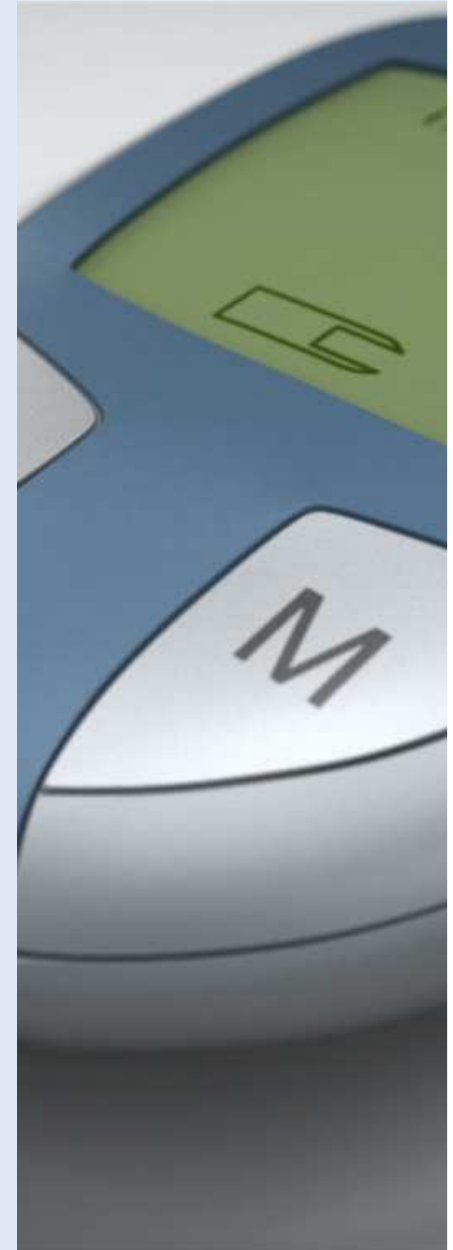
Liprolog mix 25 / 50, Humalog mix 25, Novomix 30

NPH-Insuline

Berlinsulin Basal, Huminsulin Basal, Protaphane,
Insuman Basal

Insulinanaloga langwirkend

Abasaglar, Levimir, Tresiba, Lantus, Toujeo



Einstellung

Typ 1 Diabetes

Insulintherapie

ICT (oder Pumpe)

Beginn prinzipiell ambulant möglich

besser stationär

LADA

Kombination oraler Medikation und
Insulintherapie möglich



Typ 2 Diabetes

Gewichtsanstieg vermeiden

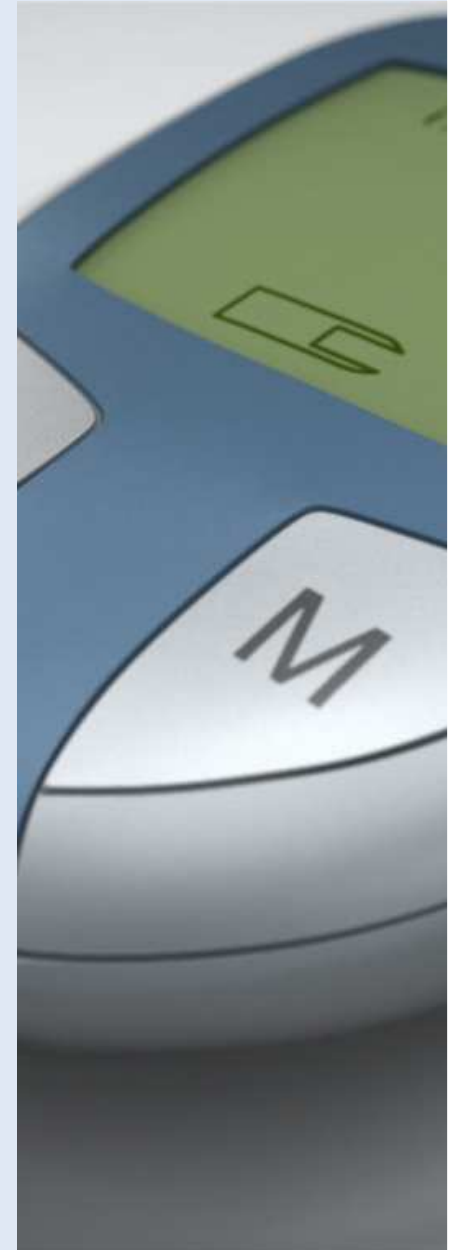
Metformin, DPP-4-Hemmer, SGLT-2-Hemmer,
GLP-1-Analoga

Hypoglykämie vermeiden

Metformin, Glitazon, DPP-4-Hemmer, SGLT-2-Hemmer,
GLP-1-Analoga

Kosten vermeiden

Metformin, Sulfonylharnstoffe, Insulin



BMI < 30

Metformin und Insulin

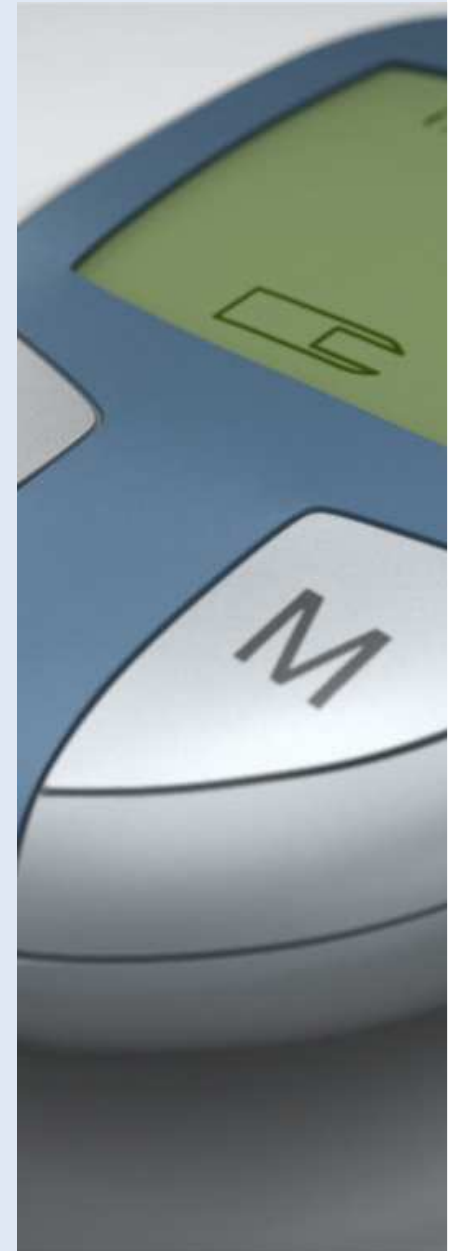
BMI > 30

Metformin

+ /- GLP-1-Analoga +/- SGLT-2-Inhibitor

+/- DPP-4 Hemmer

bei BZ-Werten > 300mg% oder HbA1c > 9%
zusätzlich Basalinsulin



Typ 3 Diabetes

Mody Typ 2

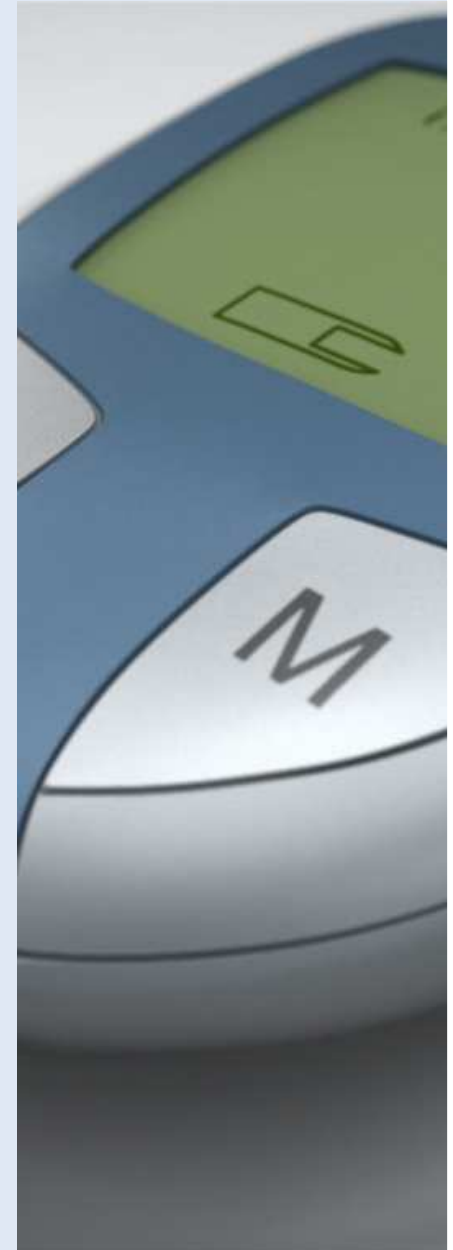
Diät, körperliche Aktivität

2% Insulin

Mody Typ 3

Sulfonylharnstoffe

40% Insulin



Beispiel

Herr S.B.

70 Jahre

BMI 35,1 kg/m²

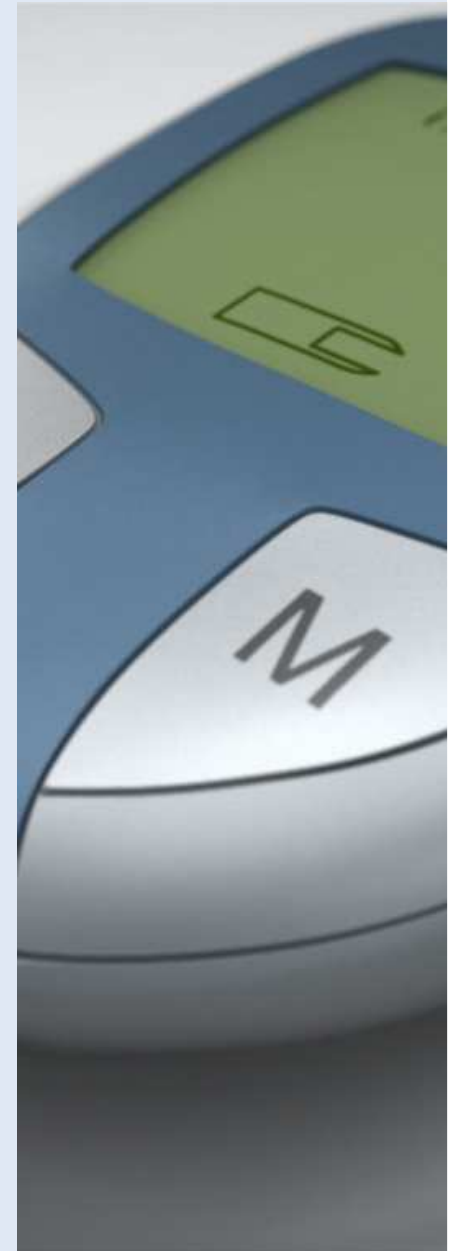
BZ initial 312 mg%

HbA1c 10,9%

Krea 0,95 mg/dl

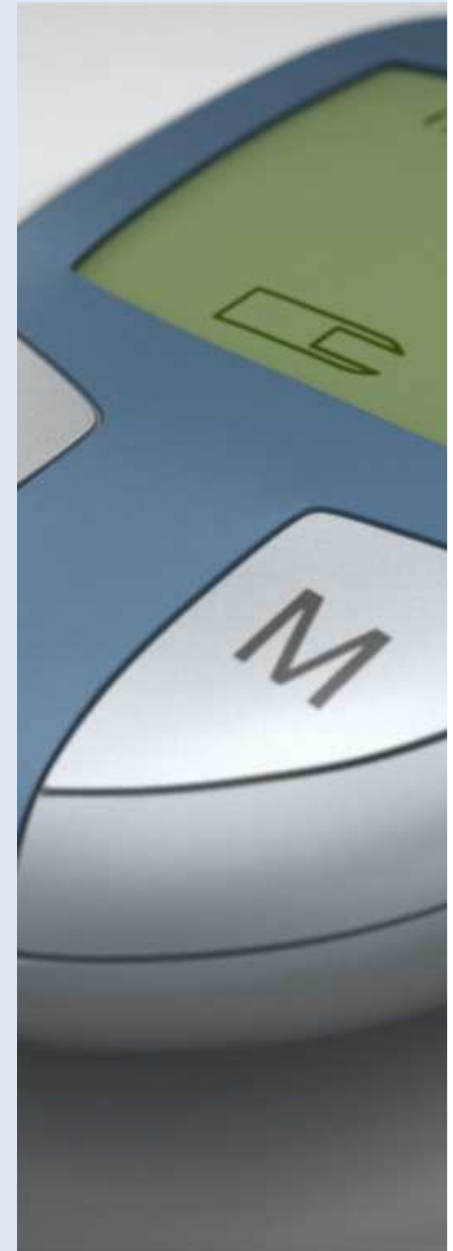
GFR 93,43 ml/min

Therapie ?



Beispiel

- Frau S.C.
- 71 Jahre
- BZ 777 mg%
- HbA1c 13,9%
- Krea 1,20 mg/dl
- GFR 52,81 ml/min
- Blutgase
 - pH 7,395, pCO₂ 28,2, pO₂ 74,8, BE -6,5
- Urin: Ketone 4fach pos.
- AK-Status: nur GAD positiv
C-Peptid 0,8 ng/ml (1,1 - 4,4)



Beispiel

- Diagnose: LADA
- ICT mit festem Spritzplan

