

Home sampling as
alternative to venipuncture:
results, patient experience
and implementation

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Venipuncture

Benefits

- Scalable in volume
- Short logistics
- Processed same day

Challenges

- Trained personnel
- Collection at hospital
- Extra visit to hospital
- Geographically limited



Finger prick

Benefits

- sample at home
- no extra visit to hospital/outpatient clinic
- easily scalable studies
- Testing is done centrally in laboratory

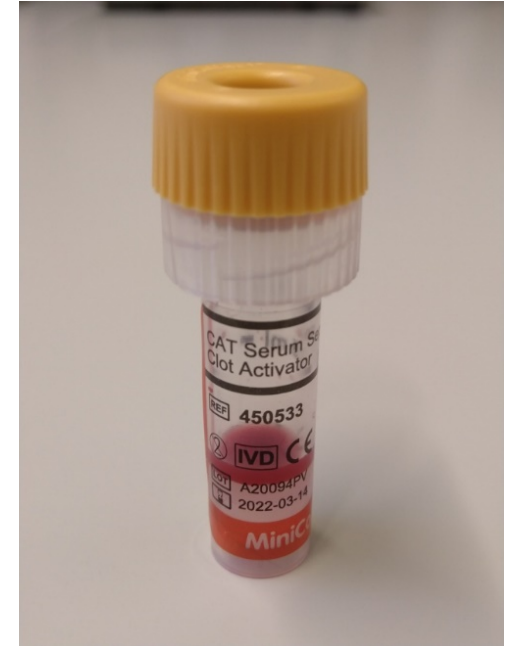
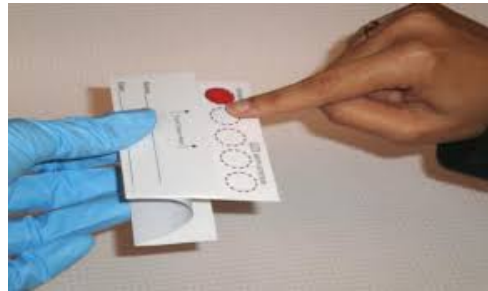
Challenges

- Small volumes
- Sample stability
- Self sampling
- Logistics

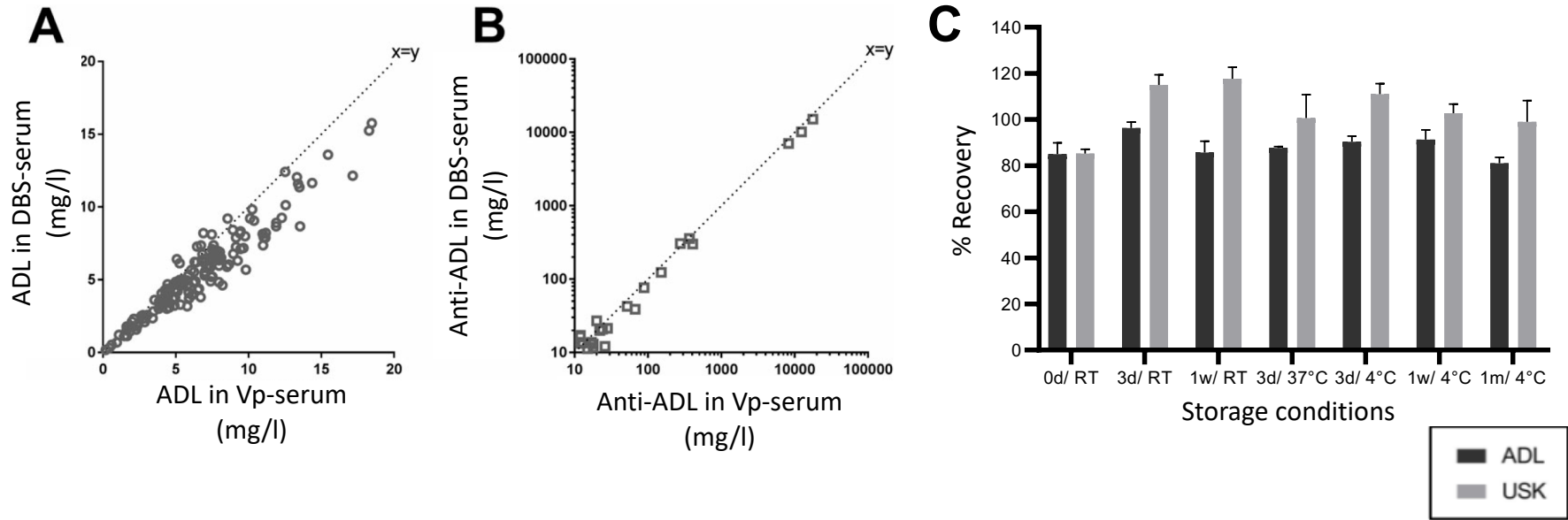


Fingerprick collection devices

- Sample type and processing
- Determine volume – Hct
- Labour involved



Finger prick comparability and stability in DBS



Our finger prick set



Our finger prick set



> 90% successful finger prick

Table 2. Evaluation of the fingerprick								
	Successful fingerprick (n=2454)			Failed fingerprick (n=223)				
	Patients (n=1648)		Controls (n=806)	Patients (n=171)		Controls (n=52)		
Failed fingerprick – no. (%)								
Succeeded to collect blood in the tube								
Yes ≥ 3 drops	1280/1361	(94)	656/680	(96)	57/110	(52)	24/37	(65)
Yes, but < 3 drops	80	(6)	23	(3)	36	(33)	12	(32)
No	1	(0.1)	1	(0.1)	17	(15)	1	(3)
Reason for little to no collection*								
Not enough blood to form a whole drop	N.A.		N.A.		29	(26)	11	(30)
Drop formation but it did not fall into the tube	N.A.		N.A.		26	(24)	7	(19)
Enough blood formation, but unable to collect it in the tube	N.A.		N.A.		22	(20)	6	(16)

Participant experience is positive

Table 2. Evaluation of the fingerprint				
	Successful fingerprint (n=2454)		Failed fingerprint (n=223)	
	Patients (n=1648)	Controls (n=806)	Patients (n=171)	Controls (n=52)
Experience fingerprint – no. (%)				
Experience of the prick				
Less painful than expected	172/875 (20)	70/410 (17)	11/94 (12)	2/22 (9)
As painful as expected	616 (70)	316 (77)	71 (76)	20 (91)
More painful than expected	87 (10)	24 (6)	12 (13)	0
Experience of the complete process				
Positive	492/875 (56)	238/410 (58)	25/94 (27)	6/22 (27)
Neutral	321 (37)	160 (39)	39 (42)	13 (59)
Negative	62 (7)	12 (3)	30 (32)	3 (14)

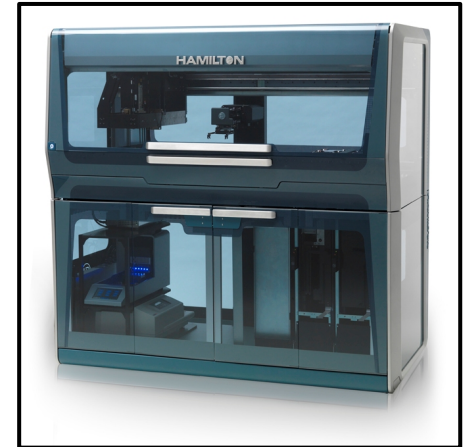
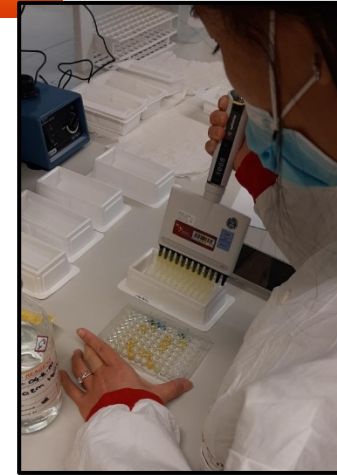
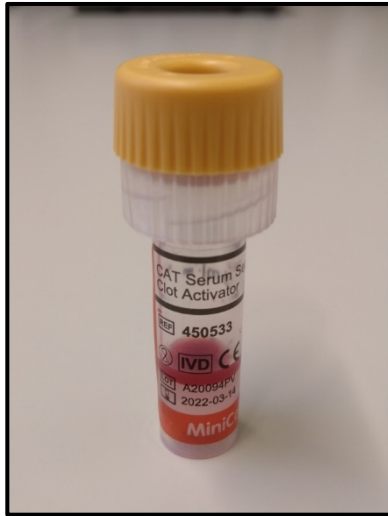
Finger prick is preferred in research and study setting

Table 2. Evaluation of the fingerprick

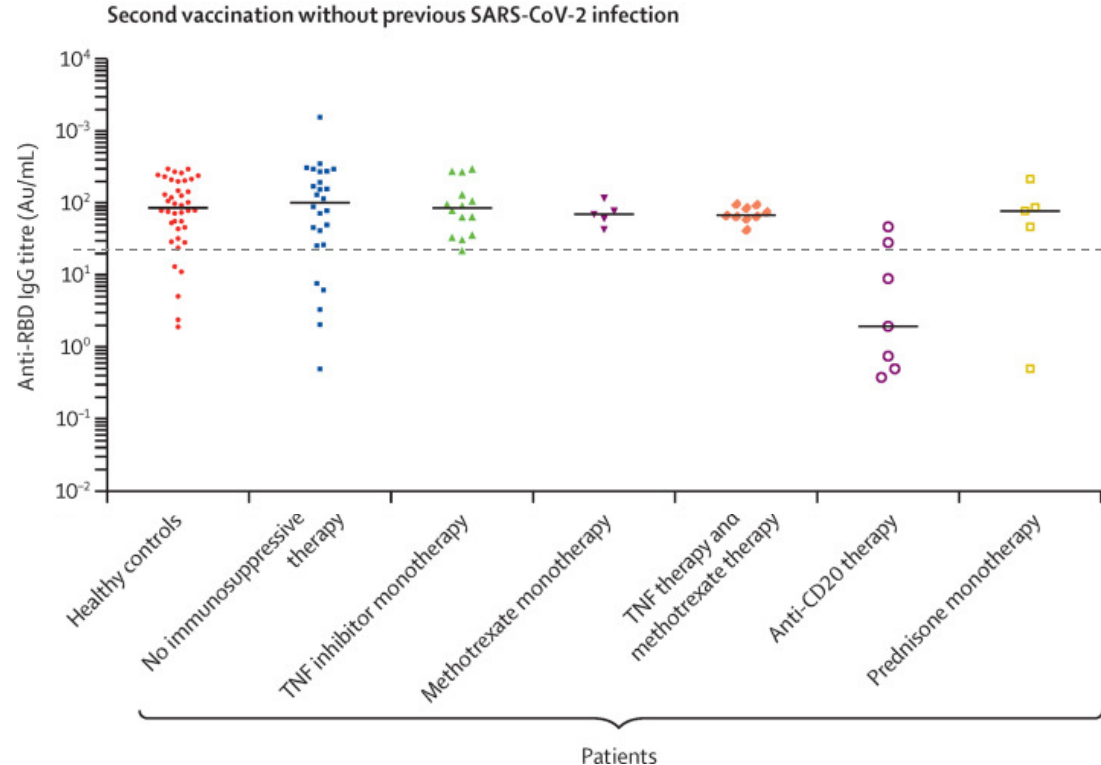
	Successful fingerprick (n=2454)		Failed fingerprick (n=223)	
	Patients (n=1648)	Controls (n=806)	Patients (n=171)	Controls (n=52)
Preferences for blood sampling method – no. (%)				
Preference for scientific research				
Fingerprick at home	476/1167 (41)	312/437 (71)	27/96 (28)	11/22 (50)
Venepuncture at healthcare institute	336 (29)	39 (9)	57 (59)	6 (27)
No preference	355 (30)	86 (20)	12 (13)	5 (23)
Preference for routine care				
Fingerprick at home	222 (19)	168 (38)	12 (13)	6 (27)
Venepuncture at healthcare institute	503 (43)	83 (19)	58 (61)	6 (27)
No preference	441 (38)	186 (43)	25 (26)	10 (46)

Sample process under control

As little as 5-10 μ l serum



Finger prick used in SARS-CoV2 study





LETTER

A prospective, randomized, single-blinded, crossover trial to investigate the effect of a wearable device in addition to a daily symptom diary for the remote early detection of SARS-CoV-2 infections (COVID-RED): a structured summary of a study protocol for a randomized controlled trial

Timo B. Brakenhoff^{1*}, Billy Franks^{1†}, Brianna Mae Goodale², Janneke van de Wijgert³, Santiago Montes⁴, Duco Veen^{1,5,6}, Eskild K. Fredslund⁷, Theo Rispens⁸, Lorenz Risch^{9,10,11}, Ariel V. Dowling¹², Amos A. Folarin^{13,14,15}, Patricia Bruijning³, Richard Dobson¹⁴, Tessa Heikamp¹, Paul Klaver¹, Maureen Cronin^{2†}, and Diederick E. Grobbee^{1,5†}
 On behalf of the COVID-RED Consortium¹⁶



Antibody development after COVID-19 vaccination in patients with autoimmune diseases in the Netherlands: a substudy of data from two prospective cohort studies

Laura Boekel, Maurice Steenhuis, Femke Hooijberg, Yaelle R Besten, Zoé L E van Kempen, Laura Y Kummer, Koos P J van Dam, Eileen W Stalman, Erik H Vogelzang, Olvi Cristianawati, Sofie Keijzer, Gestur Vidarsson, Alexandre E Voskuyl, Luuk Wieske, Filip Eftimov, Ronald van Vollenhoven, Taco W Kuijpers, S Marieke van Ham, Sander W Tas, Joep Killestein, Maarten Boers, Michael T Nurmohamed, Theo Rispens, Gertjan Wolbink

Summary

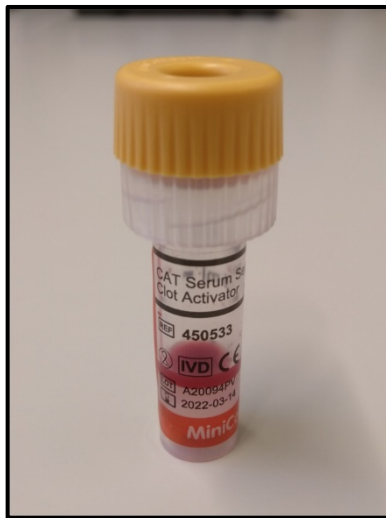
Background Data are scarce on immunogenicity of COVID-19 vaccines in patients with autoimmune diseases, who are *Lancet Rheumatol* 2021

The RECOVAC IR study: the immune response and safety of the mRNA-1273 COVID-19 vaccine in patients with chronic kidney disease, on dialysis or living with a kidney transplant

Marcia M.L. Kho¹, Marlies E.J. Reinders¹, Carla C. Baan¹, Debbie van Baarle^{2,3}, Frederike J. Bemelman⁴, Dimitri A. Diavatopoulos⁵, Ron T. Gansevoort⁶, Fiona R.M. van der Klis³, Marion P.G. Koopmans⁷, A. Lianne Messchendorp⁶, Renate G. van der Molen⁸, Ester B.M. Remmerswaal⁹, Nynke Rots³, Priya Vart^{6,10,11}, Rory D. de Vries⁷, Luuk B. Hilbrands¹² and Jan-Stephan F. Sanders⁶ and RECOVAC Collaborators*

Summary

We can accurately measure antibodies in small volumes



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Floris Loeff

Theo Rispens

Laura Boekel

Bart Seppen

Maureen Leeuw

Femke Hooiberg

Erik Vogelzang

Gertjan Wolbink

Study partnerships

Participants