

SUPPLEMENTAL MATERIAL

Table S1. Advanced tissue characterization and additional cines performed on the basis of the clinical indication in the tailored CMR.

Indication	Fat module	Edema module	RV module
(confirmed or suspected)			
DCM	+	+/-	+/-
AC	+		+
HCM		+	
Myocarditis		+	
MINOCA		+	
Amyloidosis		+	
Athlete's Heart	+		+

Table S2. Impact of CMR versus stress CMR, and excluding patients lost at follow-up.

	Whole cohort	Standard CMR	Tailored CMR
Whole cohort			
Total (lost to FU)	220 (44)	137 (32)	83 (12)
N	176	105	71
New diagnosis <i>N (%)</i>	36 (20%)	21 (20%)	15 (21%)
New unexpected diagnosis	2 (1%)	0	2 (3%)
Therapeutic consequences			
• Change in medication	20 (11%)	16 (15%)	4 (6%)
• Invasive procedure/surgery	32 (19%)	20 (19%)	12 (17%)
• Ordering of new tests	10 (6%)	5 (4%)	5 (7%)
• Avoided invasive procedure*	3 (2%)	2 (2%)	1 (1%)
CMR impact <i>N (%)</i>	100 (57%)	62 (59%)	38 (54%)
Stress CMR**			
Original cohort (lost to FU)	46 (11)	25 (8)	21 (3)
N=	35	17	18
New diagnosis	8 (23%)	4 (24%)	4 (24%)
New unexpected diagnosis	0	0	0
• Therapeutic consequences			
• Change in medication	1 (3%)	1 (6%)	0
• Invasive procedure/surgery	8 (23%)	3 (18%)	5 (29%)

• Ordering of new tests	1 (3%)	1 (6%)	0
• Avoided invasive procedure*	3 (9%)	2 (12%)	1 (6%)
CMR impact <i>N</i> (%)	18 (51%)	9 (53%)	9 (50%)

CMR**

Total (lost to FU)	144 (33)	98 (24)	46 (9)
<i>N</i>	111	74	37
New diagnosis	28 (25%)	16 (22%)	12 (32%)
New unexpected diagnosis	1 (1%)	0	1 (3%)
Therapeutic consequences			
• Change in medication	19 (17%)	15 (20%)	4 (11%)
• Invasive procedure/surgery	19 (17%)	13 (18%)	6 (16%)
• Ordering of new tests	2 (2%)	0	2 (12%)
• Avoided invasive procedure*	0	0	0
CMR impact <i>N</i> (%)	69 (62%)	44 (59%)	25 (68%)

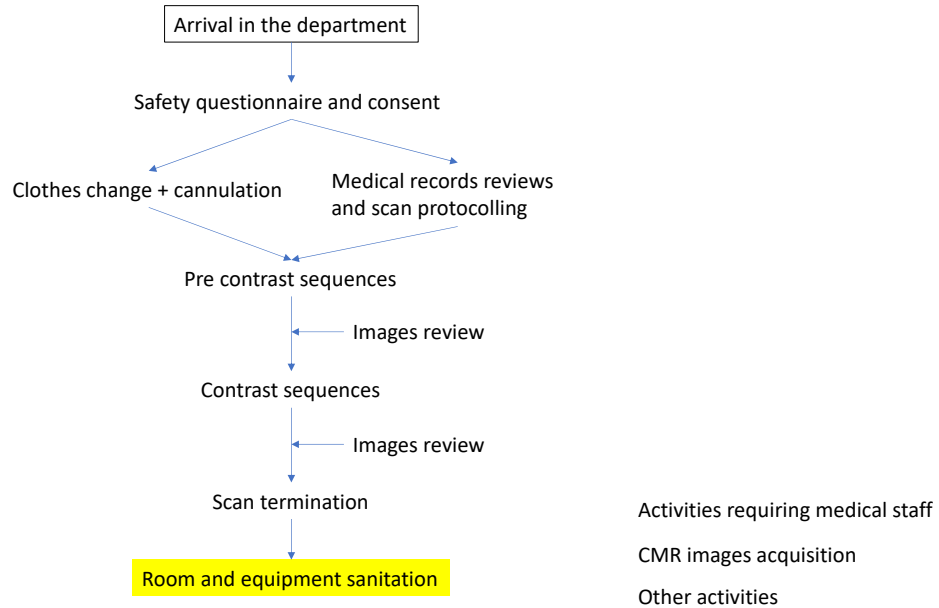
*: “avoided invasive procedures” are not considered to calculate CMR/stress-CMR impact. **: excluding research scans. *CMR*: Cardiac Magnetic Resonance; *FU*: follow-up.

Table S3. Confidence degree in diagnosis in the control group.

	Standard protocol	Simulated rapid protocol	Simulated tailored protocol	P value
N	137	137	137	
Confidence in the diagnosis				
Poor	3	6	4	
Moderate	15	53	24	
Strong	118	77	108	
				Standard vs rapid: <.001
				Tailored vs rapid: <.001
				Standard vs tailored: 0.17

The 137 scans constituting the control group were anonymized and exported three times: 1) with all the sequences originally acquired (“standard protocol”); 2) excluding all advanced tissue characterization images and RV cines, according to the rapid scanning approach (“simulated rapid protocol”); 3) including a set of sequence according to the tailored CMR approach (“simulated tailored protocol”). Then, two CMR-experienced cardiologists (VV and SF) reported independently half the scans each. Each time they were made aware of the referral question and asked to make a diagnosis and express a degree of confidence in it (expressed as “poor”, “moderate”, “strong”). Confidence degree in the diagnosis in each group are reported in the table. Wilcoxon Signed-Rank Test was used to test the differences in diagnosis confidence among the groups. Bonferroni correction was applied to counteract the problem of multiple comparisons. The confidence degree was higher in the standard protocol compared to the rapid CMR, but was unchanged between the tailored and the standard CMR.

Figure S1. Scan protocolling and acquisition flowchart.



Medical records review and CMR protocolling is performed immediately before the scan. Images are reviewed by a CMR doctor before contrast administration and before ending the scan. Tailored CMR protocolling did not increase the staff needed nor the permanence in the department.