

SUPPLEMENTARY MATERIAL

Table S1. List of tests with reference values of each examination included in CDT app

Diagnostic marker	Site	Cut-off value	Sensitivity	Specificity	Reference
Serum Markers					
CRP	Hip and Knee	That of reference lab	0.880	0.870	1
	Knee	16.5 mg/L	0.760	0.930	2
ESR	Hip and Knee	That of reference lab	0.750	0.740	1
WBC	Hip and Knee	That of reference lab	0.450	0.700	1
Interleukin-6	Hip and Knee	That of reference lab	0.970	0.910	1
Procalcitonin	Hip and Knee	0.3 ng/ml	0.33	0.98	3
TNF-alpha	Hip and Knee	40 ng/ml	0.43	0.94	3
Staphylococcal polysaccharide ELISA	Hip and Knee	0,35 ELISA units	0.897	0.951	4
Joint Aspiration					
Cultural examination	Hip		0.86	0.94	5
	Hip and Knee		0.563	0.981	6
Synovial WBC	Hip	3000 cells μ L	0.86	0.99	5
Synovial Neutrophil count	Hip	80%	0.89	0.85	5
Synovial CRP	Knee	0.06 mg/L	0.700	1.000	2
	Knee	3.7 mg/L	0.840	0.970	2
Synovial PCR	Hip and Knee		0.44	0.94	7
Imaging techniques					
Three Phase Bone scan	Hip		0.88	0.9	8
AGS with monoclonal antibodies	Hip and Knee		0.830	0.800	9
In-111-labeled leukocyte	Hip and Knee		0.770	0.770	10
FDG-PET	Hip		0.826	0.898	11
	Knee		0.904	0.748	11
Sonography	Hip	Capsule-to-bone distance < 3.2 mm	0.999	0.770	12
Spiral CT (Bone)	Hip		0.75	0.3	13
Spiral CT (Soft tissues)	Hip		0.999	0.87	13
Infra-red telethermography	Knee	1°C	0.890	0.91	14
Intra-operative findings (Histology; frozen section)					
Feldman criterion	Hip and Knee	5 PMN in 5 separate fields	0.29	0.95	15
Athanasou criterion	Hip	1 PMN in 1 high power field	0.714	0.642	16
Post-operative findings					
Periprosthetic tissue culture	Hip and Knee	1 or more positive culture	0.734	0.909	6
	Hip and Knee	2 or more positive culture	0.608	0.992	6
Sonication of retrieved implants	Hip and Knee	5 or more CFU	0.785	0.988	6
DTT treatment of implants	Hip and Knee	5 or more CFU	0.857	0.941	17
Intra-operative cultures	Hip and Knee	1 or more positive culture	0.83	0.81	18
	Hip and Knee	2 or more positive culture	0.71	0.97	18
	Hip and Knee	3 or more positive culture	0.65	0.996	18
	Hip		0.94	0.97	5
PCR	Hip and Knee		0.86	0.91	19
Histology	Hip and Knee		0.94	0.94	20

Key: Serum C-reactive Protein (CRP), erythrocyte sedimentation rate (ESR), Polymerase Chain Reaction (PCR), White Blood Cell count (WBC), Tumor necrosis factor (TNF), Enzyme-linked immunosorbent assay (ELISA), Antigranulocyte scintigraphy (AGS), computed tomography (CT), Dithiothreito

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