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1-1,1	We recommend to screen renal transplant candidates for cancer according to the recommendations that apply to the general population. (**ungraded statement**)	4,3	4,0	4,4
1-1,2	We suggest to screen renal transplant candidates for presence of kidney cancer by ultrasound (**ungraded statement**).	4,0	4,1	4,5
1-1,3	We suggest to screen for the presence of urothelial cancer in renal transplant candidates with an underlying renal disease associated with an increased risk for this type of cancer. (**ungraded statement**)	4,1	3,8	4,2
1-1,4	We recommend to screen HCV and HBV-infected renal transplant candidates for presence of hepatocellular carcinoma according to the EASL-EORTC Clinical Practice Guideline on the management of hepatocellular carcinoma. (**ungraded statement**)	4,9	4,8	4,6
1-1,5	We suggest that patients with previous cancer or cancer discovered during work-up should have an individualized case-per-case approach, including discussion with an oncologist, that takes into account: a) the potential for progression or recurrence of the cancer according to its type, staging and grade; b) the age of the patient; c) the existence of co-morbidities, in order to define the appropriate period of time that wait-listing should be delayed. (**ungraded statement**)	4,7	4,5	4,5
1-2,1	We recommend not considering HIV per se as a contra-indication for renal transplantation. (**1C**)	3,8	3,8	3,8
1-2,2	We recommend wait-listing HIV patients only if 1) they are compliant with treatment, particularly HAART therapy 2) their CD4+ T cell counts are > 200/μL and have been stable during the previous 3 months 3) HIV RNA was undetectable during the previous 3 months 4) no opportunistic infections occurred during the previous 6 months 5) they show no signs compatible with progressive multifocal leukoencephalopathy, chronic intestinal cryptosporidiosis, or lymphoma. (1C)	3,9	3,9	3,8
1-2,3	We suggest that the most appropriate anti-retroviral therapy should be discussed and possibly modified prior to transplantation with the infectious diseases team in order to anticipate potential drug interactions after transplantation. (**ungraded statement**)	4,6	4,5	4,1
1-3,1	We recommend to vaccinate against varicella zoster virus (VZV) all pediatric and adult patients negative for anti VZ antibodies, better while on waiting list for transplantation. (**1D**)	4,3	4,1	4,1
1,4,1	We recommend to not consider typical, proven shiga-toxin E-coli associated Haemolytic Uremic Syndrome (HUS) a contra-indication to transplantation from either deceased or living donor. (**1B**)	4,4	4,3	4,3
1-4,2	We suggest considering renal transplantation as an acceptable option 1) in renal transplant candidates with aHUS and a proven MCP mutation, and 2) in those displaying anti-CFH auto-antibodies. (Ungraded statement)	2,9	3,6	3,0
1-4,3	We suggest that kidney transplantation in patients with aHUS should only be undertaken in centres with experience in managing this condition and where appropriate therapeutic interventions are available. (Ungraded statement)	4,6	4,7	3,8
1-4,4	We do not recommend living donation from a genetically related donor in patients who are suspected to have aHUS as their underlying kidney disease unless the responsible mutation has been conclusively excluded in the donor. (1D)	4,4	4,4	4,3
1-4,5	We recommend evaluating the potential of living donation from a genetically unrelated donor to a recipient with aHUS on a case by case basis. It should only be considered after appropriate counselling of recipient and donor on the risk of disease recurrence in the transplanted graft. (Ungraded statement)	4,4	4,4	4,1
1-5,1	We recommend that primary focal segmental glomerulosclerosis per se is not a contraindication to kidney transplantation from either a living or a deceased donor. (1D)	4,6	4,8	4,4
1-5,2	We recommend informing the recipient and in living donation, the potential donor, about the risk of recurrence of focal segmental glomerulosclerosis in the graft. (Ungraded statement)	5,0	4,8	4,5
1-5,3	We recommend that when a first graft has been lost from recurrent focal segmental glomerulosclerosis, a second graft from either a deceased or a living donor should only be transplanted after an individual risk/benefit assessment and careful counselling of the recipient and potential donor in the case of living donation. (Ungraded statement)	4,7	4,6	4,5
1-5,4	We suggest to establish an updated management protocol to be used in case of recurrence of focal segmental glomerulosclerosis. (**ungraded statement**)	4,4	4,0	4,3
1-5,5	We suggest that children with steroid-resistant nephrotic syndrome undergo appropriate genotyping before waitlisting them for kidney transplantation. (**ungraded statement**)	4,1	4,1	3,9
1-6,1	We recommend that women drinking >40g and men drinking >60g of alcohol per day stop or reduce alcohol consumption (**1D**).	4,7	4,6	3,8
1-6,2	These patients can be waitlisted, but a careful surveillance of reduction of alcohol consumption should be exerted (**ungraded statement**).	4,4	4,3	3,8
1-6,3	We recommend that patients with alcohol 'dependence' should not be waitlisted (**ungraded statement**).	4,1	4,4	3,7

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1-6,4	Strategies to stop alcohol consumption should be offered, according to the WHO Clinical Practice Guideline.(**ungraded statement**)	4,7	4,7	4,2
1-7,1	We recommend that patients should stop smoking before transplantation. (**1B**)	4,6	4,6	3,6
1-7,2	Smoking cessation programs should be offered. (**ungraded statement**)	4,5	4,7	4,2
1-8,1	We recommend that patients with a BMI > 30 kg/m² should be stimulated to reduce weight before transplantation (**ungraded statement**).	4,4	4,7	3,7
1,9-1	We recommend not to refuse a cadaveric graft because of uncontrolled hyperparathyrodism only to patients who present for transplantation (**1D**).	4,0	4,0	4,2
1-9,2	However, for patients on the waiting list, effort should be made to comply with existing CKD-MBD guidelines, including parathyroidectomy when indicated. (**ungraded statement**)	4,7	4,8	4,6
1-10,1	- We recommend considering basic clinical data, physical examination, resting ECG and chest-X ray as a sufficient standard work-up in asymptomatic low risk renal transplant candidates (**1C**).	3,1	4,3	3,3
1-10,2	- We recommend performing a standard exercise tolerance test in asymptomatic high risk patients (older age, diabetes, history of cardiovascular disease). Only those with a negative test should not undergo further cardiac screening (**1C**).	3,8	4,4	4,2
1-10,3	- We recommend performing further cardiac investigation for occult coronary artery disease with a non-invasive stress imaging (Myocardial perfusion or Dobutamine Stress Echocardiography) in renal transplant candidates with high risk and a positive or inconclusive exercise tolerance test.(**1C**)	4,3	4,2	4,3
1-10,4	- We recommend performing coronary angiography in renal transplant candidates with a positive test for cardiac ischemia. Further management should be according to the current cardiovascular guidelines (**1D**).	5,0	5,0	5,0
1-11,1	We recommend native nephrectomy before transplantation (unilateral or bilateral) in case of severe, recurrent symptomatic complications (bleeding, infection, stones) in patients with autosomal polycystic kidney disease (ADPKD). (**1C**)	4,9	4,9	4,9
1-11,2	We suggest unilateral nephrectomy of asymptomatic ADPKD kidneys at the time of transplantation when space for the transplant kidney is considered to be insufficient. (**2C**)	4,7	4,8	4,6
1-11,3	We do not recommend routine native nephrectomy, unless in cases of recurrent upper tract urological infection or when the underlying kidney disease predisposes to enhanced cancer risk in the urogenital tract. (**ungraded statement**)	4,9	4,8	5,0
2-1,1	We recommend that at least one typing is performed by molecular HLA typing of patients and donors to avoid mistakes in the classification of the HLA antigens. (**1A**)	4,7	4,1	4,6
2-1,2	We recommend that HLA typing is performed twice, preferentially on separate samples obtained at two different occasions. (**Ungraded statement**)	3,6	4,2	3,8
2-1,3	In case of sensitized patients, we recommend additional serological typing of the donor cells to be used for cross-matches in order to check the proper expression of the HLA antigens on the target cells. (1D)	4,6	4,6	4,6
2-1,4	For highly sensitized patients with allele specific antibodies we suggest to consider high resolution molecular typing in both recipients and donors. (**Ungraded statement**)	3,7	3,7	2,8
2-2,1	We suggest to mactch for HLA-A, -B and dR whenever possible (2C)	3,9	4,1	4,4
2-2,2	We recommend to balance the effects of HLA matching with other parameters that affect patient and graft outcomes when deciding the acceptance of a potential graft (1D)	4,3	4,3	4,3
2-2,3	We recommend to give preferenec to an HLA identical donor and recipient combination (1B)	4,3	4,3	4,5
2-2,4	We suggest to give more weight to HLA-DR matching than to HLA-A and B matching (2c)	4,0	4,5	4,2
2-2,5	we recommend to give more weigh to HLA matching in younger patients, in order to avoid HLA sensitization that might impair re-transplantation (ungraded statement)	4,2	4,5	4,2
2-3,1	We recommend to perform HLA-DQ, HLA DP and HLA C typing of the donor only when the intended recipient has HLA antibodies against those antigens (1D)	3,6	4,2	2,9
2-3,2	We do not recommend routine typing for Major Histocompatibility complex class 1 related chain A (MICA) and other non-HLA antigens in either recipient or donor (1D)	4,4	4,4	3,7
2-4,1	We recommend establishing programs to select a donor towards whom the recipient does not produce antibodies. (1C)	5,0	4,7	4,7
2-4,2	In recipients from cadaveric kidney donors, this aim can be achieved by an acceptable mismatch program. (1C)	4,7	4,4	4,3
2-4,3	In living donation this goal can be achieved by paired exchange. (Ungraded Statement)	4,7	4,7	4,1
2-4,4	We recommend to transplant patients with donor specific antibodies only if these abovementioned measures cannot be accomplished and after successful intervention. (2D)	3,5	4,1	3,1

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2-5,1	Evidence comparing patients with a failed transplant with vs without nephrectomy is insufficient and conflictive, hampering a meaningful general recommendation on whether or not nephrectomy of failed grafts should be recommended. (Ungraded statement)	3,6	4,1	2,8
2-5,2	We suggest that in following conditions an explantation of the failed kidney graft be considered: clinical rejection, chronic systemic inflammation without other obvious cause, or recurrent (systemic) infections (ungraded statement).	4,7	4,4	4,4
2-5,3	We suggest to continue low level immunosuppression and to avoid a nephrectomy of a failed graft when residual graft urinary output is >500ml/day and there are no signs of inflammation.(ungraded statement)	4,2	5,0	4,4
2-6,1	We recommend a CDC cross match be performed in HLA sensitized patients to prevent hyperacute rejection. (1B)	4,7	4,7	4,7
2-6,2	We suggest that in HLA antibody negative patients with negative regular quarterly screening samples a cross match can be omitted, unless a potential HLA sensitizing event has occurred since last screening (2B)	3,3	4,1	3,1
2-6,3	We do not recommend to perform Luminex cross match, or endothelial cell cross match because their additional value needs further evaluation. (1D)	3,3	4,1	3,1
2-6,4	We recommend a positive CDC crossmatch should only be accepted as true positive when donor specific antibodies are known to be present (1B)	3,8	3,8	3,3
2-7,1	We recommend inhibition of antibody production 4 weeks and antibody removal 5-7 days before transplantation, using validated protocols. (1B)	3,8	4,1	4,1
2-7,2	We recommend transplantation of an ABO incompatible kidney only if the antibody titer after intervention is lower than 1:8. (1B)	4,2	3,9	3,4
2-7,3	We suggest to consider paired exchange when available (ungraded statement)	5,0	4,7	4,7
2-8,1	We suggest that repeated HLA mismatches be not considered a contra-indication for transplantation in the absence of antibodies against those repeated mismatches. (Ungraded statement)	4,7	5,0	4,7
2-8,2	We suggest that the presence of antibodies against the repeated mismatch detectable by other techniques than CDC be considered as a risk factor rather than a contra-indication. (Ungraded statement)	4,1	4,7	4,1
3-1,1	We recommend that before a kidney of a cadaveric donor is discarded because it is deemed unsuitable for single transplantation, transplantation of the two kidneys in one recipient is considered as an option **(1B).**	4,6	4,4	4,2
3-1,2	We suggest that in cadaveric donors where there is uncertainty over the quality of the kidneys, the decision to either discard the kidneys, use them as a dual or a single transplant, be based on a standardized assessment of pre-transplant donor biopsy, taking also into account the clinical evaluation and history of the acceptor**(2C).**	4,3	3,9	4,3
3-1,3	We recommend that before a kidney from a pediatric donor is discarded because it is deemed unsuitable due to low donor age for single transplantation in adult recipients, En Bloc transplantation is considered (1B).	4,2	4,0	4,2
3-1,4	We suggest that the option of using kidneys for En Bloc transplantation is always considered for donors weighting less than 10 kg (1C).	3,8	4,4	4,0
3-2,1	There is insufficient evidence to favour a particular preservation solution for kidneys that carry a low risk of delayed graft function. (Ungraded Statement)	4,4	5,0	4,2
3-2,2	We recommend not using Eurocollins as a preservation solution for kidneys that carry a high risk of delayed graft function (long projected CIT, extended criteria donors). (1B)	3,2	3,8	3,4
3-3,1	There is conflicting data regarding the generalizability of the benefit of machine perfusion over static cold storage. Until further evidence emerges, no firm recommendation for the use of machine perfusion in preference to cold storage can be made. (Ungraded Statement)	3,6	4,0	3,0
3-4,1	We suggest that cold ischemia time is kept as short as possible (**2D**)	4,8	4,6	4,8
3-4,2	We recommend keeping cold ischemia time below 24 hours when transplanting kidneys from donors after brain death (**1B**)	5,0	5,0	5,0
3-4,3	We recommend keeping cold ischemia time less than 12 hours when using kidneys from donors after cardiac death. (**1D**)	4,2	4,8	4,4
3-4,4	We recommend that the decision to use donor kidneys with a cold ischaemia time of more than 36 hours should be made on a case per case basis (**1D**)	4,4	4,0	3,6
3-5,1	We recommend to encourage living kidney donors to exercise on a regular basis and, when appropriate, lose weight and stop smoking. (**1C**)	5,0	4,8	4,4
3-5,2	We recommend that the individual risk of donation should be carefully discussed with the donor, taking into account the situation of both donor and recipient. Ideally, this should be done using standardised check lists to ensure all items are discussed (**ungraded statement**)	4,8	4,6	4,8
3-5,3	We suggest that the donor be evaluated by an independent physician, and when appropriate, by a psychologist. (**ungraded statement**)	3,8	4,0	3,6
3-5,4	We recommend to stop the process of donation should any doubt on donor safety arise. (**ungraded statement**)	4,8	4,3	4,8

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3-5,5	We recommend that the simultaneous presence of more than one risk factor (hypertension, obesity, proteinuria, impaire glucose tolerance, haematuria) precludes donation. (Ungraded Statement)	3,3	3,7	3,5
3-5H,1	We recommend considering potential donors with a blood pressure <140/90 mmHg on at least three occasions without antihypertensive medication, as normotensive. (**1C**)	4,5	4,3	4,3
3-5H,2	We suggest measuring ambulatory blood pressure in potential donors who have office hypertension (blood pressure >140/90 mmHg) or who are taking pharmacological treatment for hypertension (**2C**)	4,5	4,3	4,3
3-5H,3	We suggest well-controlled primary hypertension, as assessed by ambulatory blood pressure <130/85 mmHg, under treatment with maximum 2 anti-hypertensive drugs (diuretics included)) is not considered a contra-indication to living kidney donation. (**2C**)	3,4	4,1	3,4
3-5H,4	We recommend that in hypertensive donors with evidence of target organ damage such as left ventricular hypertrophy, hypertensive retinopathy, and micro-albuminuria, donation should be discouraged. (**1C**)	5,0	4,8	4,8
3-5H,5	We suggest that these potential donors can be reevaluated for disappearance of this target organ damage after appropriate treatment. (2D)	2,7	3,6	2,7
3-5O,1	We suggest to consider a BMI above 35 kg/m2 a contraindication to donation. (**2C**)	3,5	4,3	3,7
3-5O,2	We recommend counseling obese and overweight donors for weight loss before and after donation. (**ungraded statement**)	5,0	4,8	4,3
3-5I,1	We recommend diabetes mellitus is a contraindication to donation, other than in exceptional circumstances. (**1D**)	4,8	4,5	4,8
3-5I,2	We suggest impaired glucose tolerance is not an absolute contraindication to donation. (**2C**)	3,9	4,3	3,9
3-5P,1	We recommend to quantify urinary protein excretion in all potential living donors. (**1C**)	5,0	5,0	5,0
3-5P,2	We recommend overt proteinuria is a contra-indication for living donation (24-hour total protein or spot proteinuria normalized per gram of urinary creatinine >300 mg). (**1C**)	4,1	4,8	4,8
3-5P,3	We recommend that living donors with persistent (more than 3 measurements with 3 months interval) mild proteinuria (i.e. <300mg/24hrs) be further evaluated by quantification of micro-albuminuria to assess their risk of living donation. (**ungraded statement**)	3,8	4,0	4,3
3-5P,4	We suggest to consider persistent (more than 3 measurements with 3 months interval) micro-albuminuria (30-300mg/24hrs) a high risk for donation. (**ungraded statement**)	3,6	4,0	4,3
3-5H,1	We recommend considering persistent hematuria of glomerular origin as a contraindication to living donation, because it may indicate renal disease in the donor. (**1B**) However, we acknowledge thin basement membrane disease might be an exception. (ungraded statement)	4,0	4,3	4,3
3-5O,1	We recommend that old age in itself is not considered a contraindication to donation. (**1B**)	4,5	4,0	4,3
3-6,1	We recommend that all potential living kidney donors should have their glomerular filtration rate (GFR) assessed. (**1C**)	5,0	4,8	5,0
3-6,2	We recommend that where there is doubt regarding the accuracy of GFR from estimated methods, a direct measurement of GFR should be undertaken by exogenous clearance methods. (**ungraded statement)**	4,1	4,3	3,9
3-6,3	We recommend that all potential donors should have a predicted GFR that is projected to remain above a satisfactory level after donation within the life-time of the donor. We recommend that for potential living donors less than 50 years old, a measured GFR < 80 mL/min per 1.73 m2 before donation is considered a contraindication. (**1B**)	3,8	3,8	3,8
3-7,1	We recommend informing women of childbearing age that, because they are a selected, very healthy subpopulation, donation increases their individual risk from below that of the general population, to that of the general population (**1B**)	4,0	4,0	3,3
3-8,1	For living donor nephrectomy we suggest either minimal invasive or laparoscopic approach rather than a flank subcostal retroperitoneal one. The choice between minimal invasive and laparoscopic procedure should be based on the local expertise. (**2C**)	4,5	4,8	4,5
4-1,1	We recommend to not routinely perform a hemodialysis session just prior to the transplantation procedure in the absence of a stringent clinical indication [1C)	3,8	3,8	4,4
4-1,2	In case an additional hemodialysis session needs to be performed immediatley before the transplantation procedure, we recommend to not apply ultrafiltration, unless overt fluid overload is present. (**1C**)	4,5	4,4	4,7
4-2,1	We suggest that central venous pressure is measured and corrected in the early post-operative period to prevent hypovolemia and delayed graft function. (2D)	4,1	4,5	3,7
4-3,1	There is no evidence to prefer one type of solution (cristalloids vs colloids, normal saline versus Ringer) for intravenous volume management of the recipient during kidney transplant surgery (**ungraded statement**).	3,5	3,9	3,9
4-3,2	We recommend to monitor for metabolic acidosis when normal saline is used as the sole source of intravenous fluid in the peri- and post operative period(**1B**)	4,6	4,6	4,4

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4-4,1	We do not recommend the use of 'renal doses' of dopaminergic agents in the early postoperative period, since it does not influence graft function or survival. (1B)	4,4	4,6	4,6
4-5,1	We do not recommend to start on a routine basis low molecular weight heparin, unfractionated heparin or aspirin before transplantation only for preventing graft thrombosis (**1B**)	4,0	4,6	3,9
4-6,1	We recommend prophylactic JJ stent placement as a routine surgical practice in adult kidney transplantation. (1B)	3,8	4,0	3,8
4-6,2	We suggest that when an JJ stent is in place, cotrimoxazole is given as antibiotic prophylaxis. (2D)	3,3	3,7	3,3
4-6,3	We suggest removing the JJ stent within 4 to 6 weeks. (Ungraded Statement)	4,3	4,6	4,6
4-7,1	We suggest removing the urinary bladder catheter as soon as possible after transplantation, balancing the risk of urinary leak against that of urinary tract infection (**2D**).	4,4	4,3	4,1
4-7,2	We recommend monitoring adverse event rates (urinary tract infection, urinary leakage) in each centre, to assist in the decision process of ideal removal time for the indwelling bladder catheter on the long term (**1D**).	4,3	4,3	4,3