



# Le Bulletin de la Dialyse à Domicile

## SYNTHETIC 2018 DATA REPORT OF THE FRENCH LANGUAGE PERITONEAL DIALYSIS AND HOME HEMODIALYSIS REGISTRY (RDPLF)

### Données statistiques synthétiques du Registre de Dialyse Péritonéale de Langue Française et Hémodialyse à Domicile (RDPLF) en 2018

Note : le texte original en version Française est disponible à la même adresse url : <https://doi.org/10.25796/bdd.v2i1.19093>

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#### Résumé

Le RDPLF a été créé en 1986 et collecte les principales données de dialyse péritonéale des patients des centres français et de différents pays francophones. La base de données est structurée en plusieurs modules : un module principal obligatoire comprenant un suivi des comorbidités, assistance, infections, survie, transplantation, et des modules optionnels suivant des aspects plus spécifiques : infirmier, cathéter, anémie, nutrition, insuffisance cardiaque. De plus, depuis 2012 les patients traités à domicile en hémodialyse sont également suivis. Cet article présente une synthèse des principaux résultats dans le RDPLF et l'état des lieux en 2018. Il met en évidence des différences importantes dans les pratiques et les profils des patients entre pays francophones. L'hémodialyse quotidienne à bas débit de dialysat est prédominante dans les nouveaux centres et commence à apparaître parfois comme un mode de transition qui permette le maintien à domicile des patients qui ne peuvent continuer en dialyse péritonéale.

Mots clés : DPCA, DPA, Dialyse Péritonéale, Hémodialyse à Domicile, registre

#### Abréviations :

DPCA : Dialyse Péritonéale Continue Ambulatoire  
DPA : Dialyse Péritonéale Automatisée sur machine  
DP : Dialyse Péritonéale  
HDD : Hémodialyse à Domicile  
FAV : Fistule artério veineuse

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#### Abstract

The RDPLF was created in 1986 and collects the main data of peritoneal dialysis of French patients and of various French-speaking countries. The database is structured in several modules: a compulsory core module including a follow-up of comorbidities, assistance, infections, survival, transplantation, and optional modules following more specific aspects: nursing, catheter, anemia, nutrition, heart failure. In addition, since 2012 patients treated at home in hemodialysis are also followed. This article presents a summary of the main characteristics of patients in the RDPLF in 2018. It highlights important differences in practices and patient profiles between francophone countries. Daily low dialysate flow rate hemodialysis is predominant in the new centers and sometimes begins to appear as a transitional mode that allows home maintenance for patients who cannot continue on peritoneal dialysis.

Keywords : CAPD, APD, Peritoneal dialysis, home dialysis registry

#### Abbreviation :

CAPD : Continuous Ambulatory Peritoneal Dialysis  
APD: Automated Peritoneal Dialysis  
PD : Peritoneal Dialysis  
HHD : Home Hemodialysis  
AVF : arterio venous fistula

## I – PERITONEAL DIALYSIS

### Introduction

The database of the French Peritoneal Dialysis Registry (RDPLF) contains data from patients treated with peritoneal dialysis (PD) at home since 1986, or even since 1980 in some centers. For the main module, the total number of patients, all of whom are from Francophone countries, is 40,000 as of December 31, 2018. The latter main module is practically exhaustive for France because it contains a few more patients than that of the Renal Epidemiology Information Network (REIN) registry, which is considered exhaustive. The differences in the number of patients treated with PD in the REIN and RDPLF are probably due to a different update rate of patient records (annual for the REIN, real time for the RDPLF). The other modules are of variable completeness but remain representative of a large number of patients as shown in Table I.

Tableau I : Number of centers and patients included in each module (section) of the RDPLF since 1986

Modules	Centers included	Patients included
Main mandatory module (survival and infection)	238	40 000
Nurse section	172	13 000
Nutrition et dialysis adequacy section	105	3450 (12 296 reports)
Catheters section	179	10 500 (11100 reports)
Anemia section	110	2913 (13 900 reports)
Cardiac insufficiency	52	277 (665 reports )

### Entry methods and quality control.

Of the centers, 95% enter their data through the web, the majority of them in real time without a delay of more than 1 month between two updates. Quality control of the data is ensured at several levels:

- Automatic control of absence of data or likelihood by the software.
- Real-time control by the secretary at each web entry of the centers.
- Daily check by a nurse.
- Monthly check by a second nurse.
- Reminder for each center by the secretary when highlighting an oversight or possible error during quality control, with the ultimate call made by a doctor if necessary.

### Participation of Francophone Centers at the RDPLF

Historically, the centers that participated in the RDPLF in DP are the following:

Algeria: 3 centers  
 Argentina: 1 center  
 Belgium: 18 centers  
 Congo: 1 center  
 France: 182 centers  
 Morocco: 5 centers  
 Senegal: 1 center  
 Switzerland: 3 centers  
 Tunisia: 7 centers  
 Uruguay: 2 centers

Algeria, Argentina, Congo, Senegal and Uruguay ceased their participation after 2 to 3 years so that, in 2019, only

Table II: Active centers in 2018 and number of patients treated as of December 31, 2018

Countries	Centers	Patients
Belgium	20	237
France	179	2830
Marocco	5	128
Switzerland	2	41
Tunisia	6	224

Tableau III : Profile of patients from the RDPLF who are treated with PD in the Francophone region

	France metro	DROM-COM	Belgium	Marocco	Tunisia
% male	60	50	63	49	54
Age±SD	67±17	59±15	61±19	43±17	42±15
				+ 26 % children< 16yr	
Charlson mdian	6	6	6	3	2
Percentage diabetes	30	46	36	9	14
Cardio Renal syn-drome (%)	5	0	7	0	0
Autonomous(%)	55	51	60	72	92
Nurse assisted(%)	38	40	12	28	0
Familiy assisted (%)	6	9	24	1	8
Assisted without pre- cision(%)	1	9	5	0	0
Not transplantable (%)	51	39	52	26	17
Refuse to be Trans- plantated (%)	5	3	5	5	5
Pre transplant exams not done (%)	6	14	7	36	26
Under pre transplant examination (%)	13	19	13	17	24
Registered on waiting list	25	25	23	15	28

five Francophone countries have continued to regularly participate for more than 30 years. The number of centers and patients followed in 2019 is summarized in Table II.

### Profile of patients treated in Francophone countries participating in the RDPLF.

We have split metropolitan France and DROM-COM knowing that Martinique and Guadeloupe do not participate in the RDPLF and only the centers in Reunion, New Caledonia and Tahiti are grouped in the DROM-COM region. Different populations and climatic conditions justify the distinction of metropolitan France. The age averages, the comorbidities summarized using the Charlson index (1) and the presence or absence of diabetes vary widely from one region to another,

explaining the need for assistance. Intervention by the family or a nurse depends on the capability to provide financial support, family solidarity or availability of caregivers. In Morocco, the high percentage of uncompleted assessments when the majority of patients are transplantable is probably due to the fact that some centers start the assessment only when a living donor is expected.

### Presence of arteriovenous fistula.

Opinions on the utility of performing an arteriovenous fistula (AVF) in patients treated with PD remain contradicting. This should be done at the level of the RDPLF, which is the subject of further study. The purpose of this article is to make an inventory by looking

into patients who underwent treatment as of January 1, 2019, and the percentage of those with an AVF.

In Belgium, 13% of the patients had an AVF. In France, 8% of the patients had an AVF. In Morocco, 30% of the patients had an AVF. In Switzerland, 6% of the patients had an AVF. In Tunisia, 10% of the patients had an AVF.

We made a calculation by considering only those patients on a transplant waiting list:

In Belgium, 2% of the patient on the waiting list had a preexisting AVF to PD.

In France, 4% had a preexisting at PD and 1% had a AVF during PD.

In Morocco, 24% had a preexisting at PD and 10% had a AVF during PD.

In Tunisia, 11% had a preexisting AVF at PD.

Recall that, in 2008, the working groups at the High Authority of Health considered not recommending (strong agreement), in case of DP, an AVF if the patient is waiting for transplantation (2).

### Treatment modalities used in the French-speaking region as of December 31, 2018.

Treatment modalities widely vary over time and from country to country (Table IV). Apart from Tunisia, the majority of the countries have a higher proportion of patients treated with continuous ambulatory peritoneal dialysis (CAPD) at the start of the treatment before they are transferred DPA. Thus, it appears that the tendency of studies to consider a 90-day treatment as a stable treatment is an approximation that still ignores 6% to 8% of the transfers from DPCA to DPA.

Tableau IV : Variation of the PD modality by country

	Initial treatment		Treatment at day 90		Last known treatment	
	CAPD	APD	CAPD	APD	CAPD	APD
Belgium	67%	33%	44%	55%	36%	64%
France	78%	22%	65%	35%	59%	41%
Marocco	66%	34%	60%	40%	50%	50%
Switzerland	85%	15%	67%	33%	58%	42%
Tunisia	45%	55%	43%	56%	39%	61%

### Evolution of treatments for patients in Belgium and France in 2016:

In France and Belgium, we also selected incident patients to PD in 2016, following them until 2019.

In Belgium, 46% of the patients who start CAPD are transferred to APD, and only 7% of those who start APD are transferred to CAPD.

In France, 24% of the patients who start CAPD are transferred to APD, and 11% of those who start APD are transferred to CAPD.

Of those patients whose last treatment is APD, 48% of the Belgian patients and 47% of the French were initially treated by CAPD.

### Peritoneal infections.

Peritoneal infections in patients in 2018 are summarized in Table V. Although infection rates are relatively similar in France, DOM-TOM and Belgium, they appear significantly lower in Morocco and Tunisia. It is important to remember that during regular database

Table V: Frequency of peritonitis in prevalent patients in 2018 : months between two episodes.

Systems	France métró	DOM-COM	Belgium	Marocco	Tunisia
All	36	24	25	36	59
CAPD	37	21	27	43	67
APD	35	24	24	31	54
Aseptic peritonitis	13,3%	21,7%	15,6%	29,6%	43%

quality checks, centers that have a low rate of infection are systematically called to confirm whether all infectious episodes are reported. The percentage of peritonitis in which no germ is identified is significantly higher in DOM-TOM, Morocco and especially Tunisia, where no germ is identified in 43% of the cases. Recall that in international recommendations, the percentage of peritonitis without organism should not exceed 15% (3). In France, this percentage is low. There are, however, significant variations between centers as has been demonstrated in a previous article of this review (3).

### Duration of the treatment.

Figure 1 represents the duration of treatment for all patients included in the database in France since 1978. Each point represents a patient, and all patients are included regardless of their comorbidities and stopping modality. This curve does not represent the probability of survival; rather, it only does the maximum duration of the treatment regardless of the cause of arrest. The most common exit modality among young people is transplantation; in the elderly, death. This figure is interesting since it highlights the fact that relatively young patients who, for one reason or another, could not benefit from a transplant that was impossible to obtain more than 10 years and sometimes 20 years ago.

In this general presentation, we have not calculated the actuarial survivals: these are of interest only after adjustment on the factors of comorbidity and other confounding factors. An approach that takes into account the competitive risks is more accurate, and in all cases, it deserves separate studies that are not part of this article.

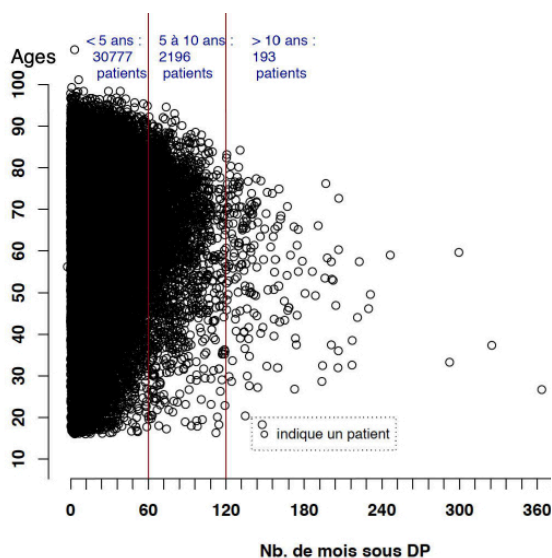


Figure 1: Maximum duration of the treatment of patients since 1978, regardless of the cause of discontinuation

On the other hand, it is interesting to evaluate the median duration of the treatment regardless of the causes of arrest and patient profiles, thus including transplantations: in patients who have been involved since 2000 in France, this median is 24.5 months.

### Modality of treatment cessation in 2018.

We selected all patients whose treatment was definitively discontinued in 2018. The results are summarized by country in Figure 2.

### Causes of death in 2018

The causes of death are summarized in Table VI. “Other related” causes are PD deaths attributed to the technique for reasons other than those listed. Conversely, so-called “unrelated” causes are those that the nephrologist attributes to neither the technique nor those listed in the software. Cardiovascular origins appear to be predominant in Belgium and Tunisia, whereas peritonitis is dominant in Morocco, despite a low rate of peritonitis (see above).

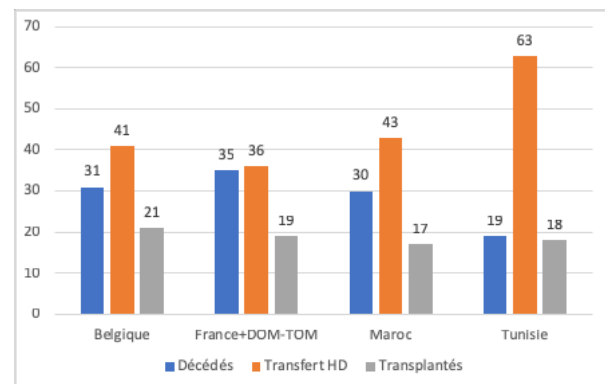


Fig.2 modalities of dropout in 2018

Table VI: Causes of deaths expressed as percentages of deaths in 2018

	Belgique	France et DROM-COM	Maroc	Tunisie
Péritonite	2	3	21	8
Malnutrition	0	3	7	0
Autres liées	0	4	7	0
Cancer	5	4	0	0
Insuffisance coronaire	28	16	14	38
Autres non liées	65	70	50	54

## Causes of hemodialysis transfers in 2018

The causes of transfers are summarized in Table VII. The so-called “other related” causes are transfers attributed to the technique for reasons other than those listed. Conversely, the so-called “unrelated” causes are those that the nephrologist attributes to neither the technique nor those listed in the software. Cardiovascular origins appear to be predominant in Belgium and Tunisia, while peritonitis is dominant in Morocco, despite a low rate of peritonitis (see above).

Table VII: Causes of PD transfers in hemodialysis expressed as percentages of hemodialysis transfers in 2018

	Belgique	France	Maroc	Tunisie
Peritonitis	26	14	30	17
Catheter complications	6	9	10	5
Sub dialysis	19	32	15	10
Malnutrition	6	1	0	0
Loss of UF	0	10	10	36
Patient's incapacity	6	4	0	5
Psychological intolerance	4	2	5	12
Failure of helper	0	1	5	2
Repeated pulmonary oedema	2	3	5	5
Others not related to technique	19	16	15	2
Others related to technique	15	9	5	5

## II - HEMODIALYSIS AT HOME

### Introduction

Hemodialysis follow-up at home in the RDPLF is recent and dates back to 2012. Unlike PD, this module of the RDPLF-HDD is not exhaustive: according to the REIN register (Cécile Couchoud, communication personal), by the end of 2018, the number of patients treated with home hemodialysis (HHD) in France

was approximately 445, while only 212 (47.5%) were recorded in the RDPLF database as processed by December 31. In terms of national representativeness, the following data should be interpreted with caution, particularly regarding the proportion of patients treated with low dialysate flow rate machines. Thus, the percentage of patients treated using low-dialysate flow rate machines in France is estimated to be 48% in the REIN register (Cécile Couchoud, provisional personal communication) and 73% in the RDPLF-HDD.

### Participation of centers and number of patients included

Since 2012, four Belgian centers have included 176 patients treated with HHD and 44 French centers have included 347 patients.

### Main results

For more details, we refer to an article published in this journal in 2018 and authored by Philippe Cougnet (<https://doi.org/10.25796/bdd.v1i2.53>), who compared the practices of HHD in France and Belgium according to the RDPLF, and bring below information that did not appear there.

**Patient profile:** The age averages are identical in Belgium and France, respectively, with 49.8 and 50 years, generally 15 years lower than the ages of patients treated with PD. In both countries, the treatment is predominant in men, with identical DP and HHD in Belgium (65 and 66 years, respectively) and significantly higher HHD in France (73% of men in HHD against 65% in DP).

The percentage of diabetics in HHD is also significantly lower than that in DP: 15.5% in Belgium and 11% in France.

### Dialysis modalities in HHD in the RDPLF

The number of sessions per week is summarized in Table VII. The highest weekly frequency in France is linked to an almost exclusive use of low-speed systems (84%), while in Belgium, only 50% are on low bandwidth. The high proportion of low bandwidth in France is probably not representative of all the centers because many HHD

Table VIII: Number of weekly sessions in HHD centers in the RDPLF in Belgium and France

3 sessions: 8.40% and 13.50%  
 4 sessions: 16.00% and 4.90%  
 5 sessions: 42.90% and 13.10%  
 6 sessions: 12.60% and 61.60%  
 7 sessions: 0.80% and 4.10%

centers in the RDPLF are new, with a few patients who only design the HHD in daily low machine debit. Older centers, which do not participate, probably have a higher proportion in conventional HHD.

We will read with interest the articles of Hafedh Fessi (5) and Thierry Petitclerc (6) on the aforementioned two treatment methods.

### Causes of return to center hemodialysis

In 2018, the fallback rate, which is calculated by the ratio of fallback divided by the number of patients prevalent in HD, was 1.25% in Belgium and 0.88% in France. The vascular approach was the main cause of declines in Belgium (27.5%), whereas it represented only 8.4% in France. This is probably due to a wider use of a central vascular approach in Belgium: 41% in Belgium against 6% in France.

### PD transition to HHD

During his or her life in dialysis, a patient is introduced to several forms of treatment. Prescribed at the right time, these different treatments can optimally respond to the medical and social situation at each stage of his or her life.

We looked at the prevalent patients between 2016 and 2018 in terms of the percentages of patients treated with HHD who had experienced DP treatment:

Of the Belgian patients treated with HHD, 9.8% had a history of treatment with PD.

Of the French patients treated with HHD, 18.5% had a history of treatment with PD.

Between the PD and HHD treatment periods, in Belgium, 61% of the patients had received the treatment in an HD center and 39% had had transplant performed and then had resumed in HHD after the transplant failed. The figures are similar in France: 63% of the patients previously treated with PD had had the treatment in an HD center first before moving back to HHD; 33% had received a transplant. Also, 4% of the patients had restarted dialysis on HHD after they had stopped previous PD treatment for temporary resumed diuresis.

These figures show that designing an optimized sequential approach for transplantation is possible. Thus, an initial treatment with DP makes it possible to save the vascular margins if a FAV has not been performed, followed by a transplantation and, in case of failure, a recovery in HHD. In addition, the availability of HHD should make it possible to avoid, in the event of PD

arrest, the obligatory passage through the center, which could always be a source of destabilization for patients attached to their home.

## CONCLUSIONS

The annual descriptive results for PD and HHD patients in the RDPLF show numerous differences in prescribed methods, patient profiles, comorbidities, countries and regions. This emphasizes the importance of morbidity or survival studies with complex adjustments and, in all cases, the maintenance of a critical sense of selection procedures. The availability of all techniques must allow each patient to benefit from the best treatment at the best time at each stage of his or her life.

## CONFLITS D'INTERET

*les auteurs déclarent ne pas avoir de conflit d'intérêt avec cet article. Le RDPLF reçoit des subventions de Baxter, Fresenius, Ther*

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### Listes des centres actifs du RDPLF au 1/1/2019 :

#### DIALYSE PERITONEALE

##### BELGIQUE

Centres de dialyse péritonéale inclus dans le RDPLF

Ath (Dr Mat)  
Ath - Baudour (Dr Mat)  
Bruxelles (Dr Francois)  
Bruxelles (Dr Goffin)  
Bruxelles (Dr Nortier)  
Bruxelles (Dr Dratwa)  
Charleroi (Dr Ho)  
Hornu (Dr Fomegne)  
Huy (Dr Bellavia)  
Leuven (Dr Bammens)  
Liege (Dr Moonen)  
Liege / Sart-Tilman 1 (Dr Bovy)  
Marche En Famenne (Dr Van Overm)  
Mons (Dr Mestrez)  
Namur (Dr Tintillie)  
Tournai (Dr Stolar)

##### FRANCE METROPOLITAINE ET DROM-COM

Centres de dialyse péritonéale inclus dans le RDPLF

Agen (Dr Benzakour)  
Aix En Provence (Dr Jaubert)  
Aix En Provence (Dr Dervaux)  
Albi (Dr Duhem)  
Alençon (Dr Cardineau)  
Amiens (Dr El Esper)  
Angers (Dr Ilinca)  
Angouleme (Dr Pujo)  
Annonay (Dr Marc)  
Aressy (Dr Basse)  
Arras (Dr Abd-El-Fa)  
Ars Laquenexy (Dr Mirgaine)  
Aubenas (Dr Buffard)  
Auxerre (Dr Jonon)  
Avignon (Dr Rosati)  
Avranches (Dr Duquennoy)  
Bastia (Dr Ben Ahmed)  
Bayonne (Dr Le Guen)

Beauvais (Dr Barsumau)  
Besancon (Dr Bresson V)  
Bethune (Dr Cherkaoui)  
Blois (Dr Prat)  
Bois Guillaume (Dr Edet)  
Bordeaux (Dr Bachelet)  
Bordeaux (Pellegrin)- (Dr Nodimar)  
Bordeaux Nord (Dr Seniuta)  
Boulogne Sur Mer (Dr Noel Bott)  
Bourg En Bresse (Dr Diab)  
Bourges (Dr Nony)  
Bourgoin Jallieu (Dr De Laforc)  
Brest (Dr Chaffara)  
Brive (Dr Boudet)  
Cabestany (Dr Ortiz)  
Caen (Dr Lobbedez)  
Cahors (Dr Ged)  
Cambrai (Dr Painchart)  
Carcassonne (Dr Zaidi)  
Chalon Sur Saone (Dr Dubot)  
Chamalieres (Dr Enache)  
Chambery (Dr Morel)  
Charleville Mezieres (Dr Halin)  
Chartres (Dr Albert)  
Cholet (Dr Djema & A)  
Colmar (Dr Ismer)  
Compiègne (Dr Tolani)  
Corbeil Essonnes (Dr Caudwell)  
Creil (Dr Demontis)  
Dieppe (Dr Poussard)  
Dole (Dr Bemmerzou)  
Douai (Dr Cardon)  
Draguignan (Dr Bouvier)  
Dunkerque (Dr Azar)  
Epinal (Dr Sekhri)  
Evreux (Dr Bouffande)  
Flers (Dr Lanot)  
Gap (Dr Huet)  
Haguenau (Dr Kribs)  
Hyerres (Dr Dao)  
La Roche Sur Yon (Dr Target)  
La Rochelle (Dr Fritz)  
La Tronche (Dr Guergour)  
Laon (Dr Nakhla)  
Le Havre (Dr Martin)  
Le Havre (Dr Boissinot)  
Le Kremlin-Bicetre (Dr Beaudreui)  
Le Mans (Dr Crochette)  
Le Mans Pole Sud 2 (Dr Seret)  
Le Puy En Velay (Dr Badulescu)  
Libourne (Dr Keller)  
Lille (Dr Lahoche &)  
Lille (Dr Lessore)  
Limoges 1 (Dr Dickson)  
Lisieux (Dr Landru)  
Lorient (Dr Legrand)  
Lyon (Dr Poux)  
Macon (Dr Virot)  
Marseille (Dr Bataille)  
Marseille Conception (Dr Sebahoun)  
Marseille Diaverum (Dr Indreies)  
Martigues (Dr Boncila)



Maubeuge (Dr Lamotte)  
Meaux (Dr Fotsing)  
Melun (Dr Ghali)  
Montbeliard (Dr Bernard)  
Montelimar (Dr Wen)  
Montpellier 5 (Dr Gilbert)  
Montpellier 5 (Dr Noguera G)  
Mulhouse (Dr Preissig)  
Muret (Dr Girardot)  
Narbonne (Dr Coldefy-V)  
Neully Sur Seine (Dr Docteurs )  
Nevers (Dr Mahieddin)  
Nice (Dr Philippot)  
Nimes 9 (Dr Lan Yue W)  
Niort (Dr Sechet)  
Nouilly (Dr Visanica)  
Noumea (Dr Le Mee)  
Ollioules (Dr Le Goff)  
Orleans 2 (Dr Ganea)  
Papeete (Dr Lafage)  
Paris 13 (Dr Issad)  
Paris 14 (Dr Abtahi)  
Paris 15 (Dr Roueff)  
Paris 15 (Dr Touam)  
Paris 18 (Dr Du Halgou)  
Paris Tenon 20ème (Dr Alkhayat)  
Perigueux (Dr Genevieve)  
Perpignan (Dr Laurent)  
Poissy (Dr Maroun)  
Poitiers (Dr Bauwens)  
Pontoise (Dr Joseph)  
Pringy (Dr Ducret)  
Quimper (Dr Rifaat)  
Quincy Sous Senart (Dr Rostoker)  
Reims (Dr Canivet)  
Rennes (Dr Genestier)  
Reze (Dr Testa )  
Roanne (Dr N'sembani)  
Rodez (Dr Thomas)  
Romans Sur Isere (Dr Sirajedin)  
Roubaix (Dr Talaszka)  
Rouvroy (Dr Brasseur)  
Saint Briec (Dr Le Cacheu)  
Saint Claude (Dr Dahmani &)  
Saint Denis De La Reunion (Dr Aizel)  
Saint Jean De Verges (Dr Spataru )  
Saint Lo (Dr Zagdoun)  
Saint Malo (Dr Hamel)  
Saint Maurice (Dr Bouachi)  
Saint Nazaire (Dr Durault)  
Saint Pierre (Dr Veillon)  
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Strasbourg (Dr Imhoff)  
Strasbourg (Dr Bencheikh)  
Talent (Dr Majbri )  
Tarbes (Dr Reynaud)

Toulon (Dr Knefati)  
Toulouse (Dr Nogier)  
Tours (Dr Gautard)  
Tours (Dr Girault-L)  
Trappes (Dr Fournier)  
Troyes (Dr Levy)  
Valence (Dr Brucker)  
Valenciennes (Dr Fleury)  
Vandoeuvre Les Nancy (Dr Coudert-K)  
Vannes (Dr Mandart &)  
Verdun (Dr Gilson)  
Vesoul (Dr Florea)  
Vichy (Dr Aguilera)  
Vourles (Vienne) (Dr Hallonet)

### **MAROC**

Centres de dialyse pértionéale inclus dans le RDPLF

Casablanca (Dr Soulami)  
Casablanca (Dr Mtioui )  
Fes (Dr Jarnige)  
Oujda (Dr Bentata)  
Rabat (Dr Benamar)  
Rabat (Dr Bahadi)

### **SUISSE**

Centres de dialyse pértionéale inclus dans le RDPLF

Geneve (Dr Jotterand)  
Geneve 14 (Dr Martin)  
Lausanne (Dr Halabi)

### **TUNISIE**

Centres de dialyse pértionéale inclus dans le RDPLF

Djerba (Dr Hsairi)  
Monastir (Dr Skhiri)  
Sfax (Dr Chaker)  
Sousse (Dr Mrabet)  
Tunis (Dr Ben Abdal)  
Tunis (Dr Soumaya)

### **HEMODIALYSE A DOMICILE**

### **BELGIQUE**

Ath (Dr Mat)  
Ath - Baudour (Dr Mat)  
Bruxelles (Dr Francois)  
Bruxelles (Dr Goffin)  
Bruxelles (Dr Nortier)  
Bruxelles (Dr Dratwa)  
Charleroi (Dr Ho)  
Hornu (Dr Fomegne)  
Huy (Dr Bellavia)  
Leuven (Dr Bammens)  
Liege (Dr Moonen)  
Liege / Sart-Tilman 1 (Dr Bovy)  
Marche En Famenne (Dr Van Overmere)  
Mons (Dr Mestrez)  
Namur (Dr Tintillie)  
Tournai (Dr Stolear)  
FRANCE

Albi (Dr Lanau)  
Alencon (Dr Cardineau)  
Angers (Dr Ilinca)  
Angouleme (Dr Pujo)  
Besancon (Dr Bresson-V)  
Bethune - (Dr Cherkaoui)  
Bordeaux (Dr Pommereau)  
Brest (Dr Chaffara)  
Caen Hd (Dr Ficheux)  
Chambery (Dr Morel)  
Cholet (Dr Djema)  
Colomiers (Dr Pillet)  
Douai Hd (Dr Cardon)  
Draguignan (Dr Bouvier)  
Dunkerque (Dr Azar)  
Evreux (Dr Bouffande)  
Gradignan (Dr Nodimar)  
Haguenau (Dr Kribs)  
Hyerres (Dr Van Der P)  
La Roche Sur Yon (Dr Target)  
Le Havre (Dr Clabault)  
Le Havre (Dr Boissinot)  
Le Mans Dr Seret)  
Le Petit Quevilly (Dr Antri Bou)  
Lisieux (Dr Barthelem)  
Lyon (Dr Poux)  
Lyon-Galland (Dr Galland)  
Melun (Dr Ghali)  
Montpellier (Dr Gilbert)  
Narbonne (Dr Vernier)  
Niort (Dr Sechet)

Quimper (Dr Rifaat)  
Rennes (Dr Laruelle)  
Reze (Dr Testa)  
Saint Lo (Dr Zagdoun)  
Saint Priest En Jarez (Dr Azzouz)  
Saint Quentin (Dr Al Badawy)  
Vandoeuvre (Dr Coudert-K)  
Vannes (Dr Mandart &)  
Vichy (Dr Aguilera )

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