

# Blood transfusion at home in HAD (hospitalization a domicile) home hospitals

## Abstract

Blood transfusions can be performed at home if done by skillful teams of HAD (Hospitalization A Domicile) Home-hospitals. They are safely ruled by law and scientific societies.

**Keywords:** blood transfusions, home, safety, law, HAD (Hospitalization A Domicile) home-hospital

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## Blood transfusion at home

In France, blood transfusions can be performed at home. However this practice is safely ruled, and only done by people working in a home hospital (Hospitalization A Domicile) HAD. In France there are home hospitals (Hospitalization A Domicile) HAD. Most of these HAD are branches of hospitals as any ward like neurology, hematology. But some of them are working on their own.

HAD provide cares either at home or in (EHPAD) residences for elderly. They don't have any bed. For member staff of HAD, caring in residence for elderly seems to be safer than at home as some members of staff nurses or nurse's helpers are in the premise. People working in EHPAD are not allowed to perform some care and particularly blood transfusion as they are not in number to ensure safety. So if an elderly needs care, in certain conditions, it is not necessary to send him to hospital as he can be cared by a member staff of HAD home hospital.

## Conditions required for performing transfusion in a hospital

### The haemovigilance supervisor

Hospitals in which transfusions are performed have to appoint a blood supervisor called « correspondent d'Hémovigilance » this blood supervisor is a doctor or at least a chemist and may have a special training for that purpose. He (or she) has to declare transfusion activity (number of bags transfused in the hospital), emergency or routine transfusions and so on. He has to declare the side effects or hazards dues to transfusion and also the near missed events. « Tractability »: each blood bag shall be linked to a patient and vice versa.<sup>1</sup>

## Haemovigilance committee

### Composition

Hemovigilance committee is a team including: head of hospital, head of EFS (French Blood Establishment) national blood bank), blood transfusion supervisor, nurse's matron (care coordinating director), nurses and doctors involved in transfusion. Biologist hematologist.... and the regional supervisor of blood transfusion CRHST (Regional Coordinator of Haemovigilance and Transfusion Safety).<sup>2</sup>

## Meetings

Hemovigilance committee, meets once to thrice a year to discuss problems related to transfusion in the hospital, to look for methods or programs to improve safety in transfusions.

## National report of activity and events

Blood transfusion supervisor may report blood transfusion activity every year to ARS (Regional Health Agency) regional agency of health and to NMSA (National Medicines Safety Agency) National agency of drugs security. ANSM gather all informations about transfusion in the whole country.

## Selecting patients for blood transfusion at home

SFTS (French Society of Blood Transfusion) and SFVTT (French Society for Vigilance and Transfusion Therapeutics)<sup>3</sup> are two scientific societies, they published 18 recommendations to ensure safety in transfusion at home:

Patient may consent to have transfusion.

Patient may consent to have transfusion at home.

Consent of patient is always required.

Patient has to be clearly informed of risks and hazards.

Patients suffer from myelodysplastic syndrome or cared with chemotherapy require chronically transfusions, they have to be transfused once in a hospital. The first transfusion is not permitted at home. No side effect or serious hazard during previous transfusion in the hospital has to be reported before.

No transfusion for acute bleeding can be performed at home

Patient with severe myocardial impairment shall not be transfused at home otherwise this can be discussed with the team caring the patient (personal GP).

Only one blood bag can be transfused. If the patient requires 2 bags, the second bag will be postponed on the following (next) day to prevent TACO.

Previously only Red Blood cells RBC could be transfused but nowadays platelets or fresh frozen plasma can be as well.

During transfusion the nurse in charge may stay bedside, for 2 hours. The doctor can be contacted at any time.

At the end, the nurse may inform the doctor that the procedure is over and that he or she leaves the patient.

At the end, when transfusion is over, relatives have to stay with patient for 2 more hours and inform the doctor of HAD of any event or side effect and at the end of the following up, HAD contact the patient. If transfusion took place in an EHPAD Home for elderly, staff of EHPAD look after patient.<sup>4</sup>

### Assessment of patient

Patient may have all criteria and no contra indication. The assessment is done by the doctor of HAD (home hospital), the patient's personal doctor and eventually the duct or in charge of EHPAD (home for elderly). If patient answer properly to all criteria then the blood transfusion can be performed.

### Performing the transfusion at home

Day 1 the doctor prescribes the blood analysis blood group and RAI (irregular antibody screening). The nurse goes to EHPAD where the patient lives or to his home. She (or he) takes blood sample and sends test tubes to the EFS (National Blood bank) where the analyses will be done.

Day 2 the nurse in charge takes the appropriate blood bag, (either in EFS or brought to patient's by a specialized transporter) and there, transfuses the patient. The time dedicated to transfusion is 2 hours by law. During the whole procedure, the nurse must stay bedside, the doctor can be called and must be alert at any time.

At the end of transfusion before departing the nurse informs the doctor and can leave the patient either with his relatives or with the member's staff of EHPAD. If the patient needs a second bag then the procedure is the same than on 2nd day but performed on 3rd day.

### Blood transfusion at home in PACA (Provence-Alpes-Côte d'Azur)

In this area of France (PACA) 4 units perform blood transfusion at home. Our purpose is not to compare the activity of each home hospital as they are very different in size and of status. 3 of them are branches (wards) of a public or private hospital and only one is caring on its own. This private Home Hospital named Clara SCHUMANN (Clara SCHUMANN as the name of a German pianist) will be particularly studied.

### Transfusion in « HOSPIDOM »

HOSPIDOM is home hospital it is a ward of a teaching hospital PAMH (Public Assistance of Marseille Hospitals) which is a very huge hospital. Blood transfusion in HOSPIDOM is 10% of its activity. 2/3 of transfusions are performed in patient's home and 1/3 in EHPAD (home for elderly). Transfusions of both RBC (Red blood Cells) and platelets concentrates (Table 1)

Table 1 Transfusion in «HOSPIDOM»

Year	2014	2015	2016	2017	2018	2019	2020	2021
Number of bags	147	101	250	213	158	101	120	145

### Transfusion in HAD «AUBAGNE»

AUBAGNE is a city in the neighborhood (surrounding) of Marseille. « HAD AUBAGNE » is a ward of the hospital of this city. It is much smaller than HOSPIDOM. Blood transfusions are performed at home and in home for elderly as well. At the moment only RBC (red Blood Cells) have been transfused (Table 2).

Table 2 Transfusion in HAD «AUBAGNE »

Year	2019	2020	2021
Number of bags	22	69	97

### Transfusion in HAD HORS LES MURS

« Hors les mur » is a ward of « PAOLI CLAMETTES Institute » which is caring cancer. « Hors les murs » made transfusions in the past, but stopped this activity about 10 years ago. They start again transfusion in 2019.

For all these units which are wards of hospitals, beginning transfusion at home, was rather easy.

They already have a Haemovigilance committee, the blood transfusion supervisor is on duty and trained.

All items for transfusion, specific lines for transfusion and bedside blood matching control cards\* are available in their pharmacy.

\*Bedside blood matching control cards: are cards to test the patient's group and the group of blood donor. It is a test which be necessarily done before transfusion RBC in France (Table 3).

Table 3 Transfusion in HAD HORS LES MURS

Year	2019	2020	2021	2022
Number of bags	48	497	401	271

### Transfusion in Clara SCHUMANN (HAD) Home hospital

As Clara SCUMANN is not a ward of another hospital and works on its own, it is much more difficult to develop blood transfusion. But it fully succeeded (Table 4).

Table 4 Transfusion in Clara SCHUMANN (HAD) Home hospital

Year	2018	2019	2020	2021
Number of bags	22	20	29	6

Clara SCHUMANN had have to create a haemovigilance committee, had to appoint a blood transfusion supervisor. Since they were working in HAD and did not transfuse, nurses and doctors as well lost their skill and have been teacher and trained in transfusion practice.

Clara SCHUMANN Hospital had to make a convention with the EFS (national blood Bank) for being supplied in blood products and for blood group and IAS analyses. As all items for transfusion, specific lines for transfusion and bedside blood matching control cards\* are not available in its pharmacy. Clara SCHUMANN has to manage to have some. In spite of all this problems, this HAD started to transfuse in 2018. But transfusions were only performed in EHPAD (home for elderly) and not at home and only RBC. So the member staff can trust on the help of the staff in the EHPAD (home for elderly) and can feel more security. During the period from 2018 to now they performed more than 80 transfusions. Now for the first time and after 5 years of practice, they started their first transfusion at home. They

are not the ones transfusing at home in PACA but it is the only HAD (Home Hospital) on its own to do so. It is not the only one HAD (Home Hospital) in France to do this. But it is the first time in PACA. A meeting of « Regional Transfusion in HAD day » has been done on 24 November 2022.

A doctor of a HAD (home Hospital on its own) from another region speaks about its activity and in particular of transfusion at home.

## Conclusion

Blood transfusion at home is nowadays allowed and ruled by law and starts to develop. No particular side effect or serious hazard has been described so it seems to be as safe as a transfusion in a hospital. It is a better comfort for patients as they stay in bed at their own home. They don't have to go to hospital either with an ambulance or taxi. This fact is important as most of these patients are elderly people. This can prevent overload in day case units, and hematology wards. It is cheaper than transfusion in a conventional hospital and also cheaper as there is no need to pay for an ambulance or taxi.

It is good for HAD staff as they can perform important cares in their practice and keep the skill. However they have to transfuse a good number of patients to keep the skill in blood transfusion practice. We hope that Clara's SCHUMANN'S experience will be a starter for other HAD in PACA region for Home Hospital and Home hospital as branches of another hospital as well. And maybe a starter to spread blood transfusion in HAD (Home hospital) Nationwide.

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## Conflicts of interest

The author declares that there is no conflict of interest.

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## References

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