

BLOOD LINE

The Voluntary Blood Donation Journal | Issue 72 | 2025

Understanding Granulocyte Donation

Granulocytes (WBC-white blood cells) are fighting against infection. While whole blood donation is widely recognized - where packed red blood cells (PRBCs), platelets, and plasma are derived from a single donation - fewer people are aware of specialized donation procedures such as single donor platelet (SDP) donation, granulocyte donation, lymphocyte collection, and stem cell donation. Among these, platelet donation is relatively common and well-known. In contrast, granulocyte donation is far less frequent, primarily because it caters to a narrow patient group and involves a more complex process. Granulocytes are mainly transfused to cancer patients or those with severe infections, and identifying a suitable donor can be challenging. Additionally, the donor is required to visit the center twice before donation - once for screening and once for pre-donation medication.

1) Who requires the granulocytes for transfusion?

1. In cases of low granulocyte count (severe neutropenia) or a birth/inherited granulocyte functional defect, regardless of count.
2. In sustained bacterial or fungal infections that do not respond to appropriate treatment for over 48 hours.
3. In certain patients who underwent stem cell transplant, where the granulocyte recovery is expected within a reasonable period

2) Who can donate granulocytes?

All eligible blood donors can donate granulocytes. The criteria are similar to those for whole blood or platelet donation.

- ABO and RhD matched donors are usually preferred.
- Age should be more than 18, weight of the donor should be more than 50kg, the donor should be free from medical conditions.
- Male or never-pregnant female donors are preferred.

3) How are the granulocytes collected?

The procedure is called granulocytapheresis. It is similar to platelet donation but typically uses a double-needle setup instead of a single needle. The donor is connected to an apheresis machine. Blood is drawn from one arm, processed via centrifugation to separate white cells, and the remaining components (RBCs, platelets, plasma) are returned through the other arm.

4) How long does the procedure take?

The duration typically ranges from 2 to 4 hours, depending on the donor's white cell count after mobilization. Since only about 3% of granulocytes circulate in the bloodstream (the rest reside in bone marrow or the marginal pool), mobilizing agents are required to increase circulating levels for efficient collection.

5) What are the mobilizing agents or the medicines given?

- Single dose of steroid: Dexamethasone 6–12 mg or Prednisone 40–60 mg orally.
- Single dose of G-CSF injection: 400 µg or 5 µg/kg subcutaneously.

6) When are these drugs administered?

Mobilizing agents are typically given 8 to 12 hours prior to the apheresis procedure to ensure optimal granulocyte levels in circulation.

7) Are there any side effects for these medicines?

1. Steroids may not be suitable for individuals with hypertension, diabetes, or peptic ulcer disease. Long-term use may lead to complications like cataracts, but no significant side effects have been reported in granulocyte donors receiving a single dose.

2. G-CSF can cause mild, temporary side effects such as bone or muscle pain, headache, fatigue, or nausea. These are manageable with common pain relievers like acetaminophen or ibuprofen.

Cont..



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8) Are any other drugs used?

Some centers use Hydroxyethyl Starch (HES) as a sedimenting agent to improve white blood cell separation. It is metabolized by the kidneys and excreted in urine. HES is not used in individuals with kidney failure, but this is not a concern for healthy donors.

9) When are tests conducted, and what tests are performed?

All required testing is done before the procedure at the blood centre. These include:

- Hemoglobin (Hb) > 12.5 g/dL
- Normal platelet and WBC counts
- TTI screening: HIV, Hepatitis B & C, Malaria, Syphilis
- Crossmatching of donor and patient samples

10) How much granulocyte volume is collected?

The typical volume ranges from 200 ml to 400 ml, depending on the donor's white blood cell count following mobilization.

11) How frequently can a donor donate granulocytes?

A donor can donate after 48 hours, but no more than twice a month and not more than 12 times a year.

12) Is there any special post-donation care?

No special care is needed. Donors are advised to:

- Drink plenty of fluids
- Avoid strenuous physical activity
- Avoid smoking
- Get proper rest
- Keep the bandage on for at least 4-6 hours after donation

13) When can a donor give whole blood again?

Whole blood donation can be resumed 8 weeks after granulocyte donation.

14) Are there alternative methods to collect granulocytes?

Yes. Granulocyte concentrates can also be prepared from pooled buffy coats, though this method is rarely used. Granulocyte donation is a specialized and life-saving procedure, especially critical for patients undergoing chemotherapy or suffering from severe infections. Though it involves additional steps such as pre-medication and a longer procedure time, it is safe, well-tolerated, and highly impactful. Increasing awareness and encouraging eligible donors to participate in granulocyte donation can significantly improve survival rates in critically ill patients.



A donor is donating granulocytes in Apheresis cell separator

Terumo Penpol's Quarterly Blood Donation Summary

We are pleased to share the quarterly (Q1) data on the blood donation camps and collections made by Terumo Penpol during April, May, and June. During Q1, Terumo Penpol organized 184 blood donation camps and collected 10,759 units of blood. This includes camps conducted by our organization with the support of the Commercial team (131 camps), Recreation Club, and Corporate Administration, as well as those organized in collaboration with hospitals in Trivandrum.

During this period, 184 of our associates also donated blood. In other highlights, Terumo Penpol was felicitated by the Regional Cancer Center for its contributions to voluntary blood donation. We also collaborated with SCTIMST, MCH, Government Medical College Ranni, and MCC Thalassery. A heartfelt thank you to all associates who supported the cause - by donating blood, participating proactively in the camps, arranging donors, and volunteering their time and effort.



World Thalassemia Day (May 8) - Terumo Penpol

As part of the World Thalassemia Day on May 8th, the Commercial Organization at Terumo Penpol organized camps across the country. As part of the initiative, our associates visited major blood banks interacted with doctors and patients, organized camps and delivered our Token of Gratitude. The planning for this activity began well in advance.

Six camps were organized as part of the observance and 219 units of blood were collected.

Our heartfelt appreciation goes to Vivek Khapse, Nagendra Chauhan, Laginesh Laxman, Amol Phirke and the marketing team for their invaluable support in making these camps a success. supporting the camps.



SN	Customer Name	Place	Activity	No of collections	Responsibility
1	MY Hospital	Indore	Donation Camp	53	Nagendra
2	IRCS BC	Indore	Donation Camp	21	Nagendra
3	Suyash Hospital	Indore	Donation Camp	36	Nagendra
4	Aashirwad BC	Raipur	Donation Camp	40	Vivek
5	Lifeline BC	Nagpur	Donation Camp	47	Vivek
6	LMH Hospital	Nagpur	Donation Camp	22	Vivek
7	Manipal Hospital	Jaipur	Donation Camp	24	Yashopat
8	Rotary Blood Centre	Alwar	Donation Camp	38	Yashopat

A Single Drop Can Save a Life - 131 BD Camps and 8799 Donations

On the occasion of World Blood Donor Day, we take a moment to honor and celebrate the selfless heroes whose generosity and compassion continue to make a profound impact - our blood donors. With every drop, they offer not just blood, but hope, healing, and a second chance at life for countless individuals.

This year, we are proud to share that on World Blood Donor Day, our Commercial organization supported 131 blood donation camps, resulting in the collection of 8,799 life-saving donations. We extend our heartfelt thanks to every team member who actively participated in organizing the blood donation camps. A special mention goes to Madhuri Luthra, Panduraj T, Lawrence Joy, and Mohammad Zafar for coordinating with the entire team to facilitate the camps.

We also acknowledge the committed efforts of our sales team - your dedication, coordination, and tireless work were instrumental in ensuring the success of this important mission. Behind every donor is a team that makes it possible - your dedication has truly been the backbone of this life-saving cause.

To the generous hearts who stepped forward to donate - we are deeply grateful. Your willingness to give without expecting anything in return embodies the true spirit of humanity.



Know Your Blood Center - Sree Chithra Thirunal Institute for Medical Sciences and Technology (SCTIMST)

Know Your Blood Center is a pilot program initiated by Sree Chithra Thirunal Institute for Medical Sciences and Technology (SCTIMST), offering participants a guided overview of the blood donation process and the functioning of blood banks.

The session included informative presentations by doctors on the fundamentals of blood and donation procedures, along with a practical demonstration of the blood donation process. The hospital team even arranged for a donor to support the program. Fifteen associates participated in the program, which was interactive and offered valuable takeaways. The blood bank team presented the participants with a certificate and a badge as part of the program.





RCC - Recognition for Terumo Penpol

The Regional Cancer Centre (RCC), Thiruvananthapuram, commemorated World Blood Donation Day with a heartfelt program dedicated to honoring the spirit of voluntary blood donation. Dr. Vijayalekshmi, Head of the Department at RCC Blood Bank, delivered the Blood donation day message, emphasizing the vital role of regular blood donation in saving lives.

Renowned cine artist Sajan Surya attended as the chief guest, bringing visibility and encouragement to the noble cause. Also present at the event was Sathish Kumar. G, Vice President – Manufacturing, who addressed the gathering with a compelling message: that blood donation should become a strong and far healthier habit instead of turning to harmful addictions. His words resonated deeply with the attendees and reinforced the significance of voluntary blood donations.

The program also acknowledged the enduring support of Terumo Penpol Private Limited for the invaluable contributions to RCC and the blood donation. A heartfelt tribute was paid to the late Baby P. S. for her notable contributions in promoting blood donation initiatives. As a token of appreciation for the company's ongoing support for blood donation, Sathish Kumar representing Terumo Penpol Private Limited was honored alongside other voluntary donors.

The event served as a powerful reminder of how collective effort, compassion, and commitment can shape a healthier society. The event reignited the call for continued support and awareness around voluntary blood donation. The essence of the event was beautifully captured in the words: "To the world, you may be one person, but to someone, you may be the world - especially when you donate blood."



Report - Baby Berly Memorial Award Distribution and Honoring Regular Donors

Terumo Penpol, in association with the Kerala Blood Donors Society and NSSKTU, organized the culmination of the World Blood Donor Day observance at SCT College of Engineering by presenting the Baby Berly Memorial Award and felicitating regular blood donors. Dr. Divya S. Iyer inaugurated the event, which was attended by noted cine actor Nandu, along with Shinu Nair from Terumo Penpol.

In recognition of the contributions made by Baby Madam, a tribute video was shown during the event. The Baby Berly Memorial Award was presented to Dr. Vijayalakshmi, Head of the Blood Bank at RCC, for her exceptional contributions in the field of voluntary blood donation.

In her inaugural address, Dr. Divya S. Iyer spoke about the importance of blood donation and shared anecdotes from her time as a doctor at CMC Vellore. Following her speech, Shinu Nair spoke about the organization's connection to blood donation and highlighted Terumo Penpol's contributions to the cause. Cine actor Nandu also addressed the gathering, echoing and reinforcing the sentiments shared by Shinu Nair.

The Recreation Club, Research and Development Department, and Corporate Administration were felicitated during the event, along with our associates who have donated more than three times and those who have made significant contributions to the cause of blood donation.



Blood Donation Camps at Terumo Penpol - June 12

As part of the From the Heart campaign, Terumo Penpol organized two blood donation camps on June 12th, held at the Blood Bag Factory and the Corporate Office. These camps were a resounding success, thanks to the enthusiastic participation and collaboration of all involved.

The camp at the Blood Bag Factory, organized in partnership with the Regional Cancer Centre (RCC), witnessed 55 registrations, out of which 43 units of blood were successfully donated. Simultaneously, the camp at the Corporate Office, supported by the Sree Chithra Thirunal Institute for Medical Sciences and Technology (SCTIMST), recorded 46 registrations and 36 successful donations. These numbers reflect the strong sense of social responsibility and community spirit that our associates embody.

We received heartfelt appreciation from both blood banks for the smooth coordination, exceptional dedication, and warm hospitality extended by our teams. Their feedback was a testament to the professionalism and commitment shown throughout the event. A special mention and sincere thanks go to the Recreation Club and the Corporate Administration team from the Head Office for their proactive role in organizing and overseeing the camps. We also appreciate the efforts of the department SPOCs for motivating and encouraging their colleagues to come forward and contribute.

We would like to particularly acknowledge the participation of teams from Medical Systems Group (MSG) and Research & Development (R&D) for their valuable contributions as blood donors. Your support has not only helped strengthen our organization's mission but has also played a part in saving lives. Together, we continue to uphold the values of compassion, community, and care - from the heart.



RUDHIRASENA ANNUAL MEET (UTSARG) 2025

The annual meet of Rudhirasena – APJAKTU NSS Blood Cell was held on two days, 14th and 15th June at UKFCET, Kollam in collaboration with Terumo Penpol Pvt. Ltd. Training for newly selected Regional Coordinators was conducted during those two days. State awards were also distributed during the annual meet function.

Competitions

In observance of World Blood Donor Day, various competitions such as App Development, Idea Pitching, Just a Minute Talk, Reel Contest, and Photo Contest were organized to foster innovation and raise awareness about blood donation. The App Development and Idea Pitching competitions featured a prize pool of ₹5000 for each, encouraging creative and impactful solutions. The events were conducted with the support of Terumo Penpol Pvt. Ltd., whose involvement played a vital role in their success. Awards for all the competitions were distributed during the Annual Meet, recognizing the efforts and talents of the participants.



State annual meet and Award distribution AS PART OF BLOOD DONOR DAY 2025



14 & 15 JUNE 2025

Venue: UKF College of Engineering and Technology
KOLLAM

Award Distribution will also be conducted to honor outstanding contributions and achievements.

Events Conducted Prior to UTSARG

- App Development Competition
- Idea pitching
- JAM (Just A Minute) Competition
- Photo Contest
- Reels Competition

Upcoming Activity:

Regional Blood Donation Camps
(conducting in all regions after the event)

Organized by: APJAKTU NSS CELL
In association with Terumo Penpol Private Limited



RC Training and Annual meet

The first day began with an ice breaking session carried out by senior RC's. Afterwards there was a session handled by Shri. Brahmanaikam. Then the new RC's were introduced to rudhirasena and its works by the program officer of UKFCET. After lunch break Rudhirasena state coordinator Mr. Aswin took the new RC's through various levels and duties of a rudhirasena regional coordinator. Dr. Joy Varghees ex-state nss program coordinator met and greeted the new regional coordinators. In between, slots were also provided for senior rc's where they shared their experiences, achievements, their future plans, their failures etc. with the new RC's. The end of the first day i.e., the night was packed with cultural events and camp fire arranged inside the college. The college arranged an aesthetic dinner night followed by musical show, camp fire, cake cutting, magic show and fun games. And in a way the first day was wrapped.



The second day started with a session by ratheesh sir from KEBS. It was followed with another session by Aneesh sir (state coordinator of PolBlood). At 2.00 pm the inaugural function started. The function was conducted in the presence of Chief guest Shri. Peeyush Paranjappa (Youth Officer – regional directorate of NSS), Dr.Anzer(State NSS Officer), Dr.Arun(Program Co-ordinator APJAKTU NSS), Shri.Aneesh P (State Co-ordinator Polblood), Shri.Ratheesh(KEBS), Shri.Ja-yaraju Madhavan(Principal-UKFCET), Shri.Dr.Aneesh(Vice Principal-UKFCET), Shri.Aswin Raj V(Rudhirasena State Co-ordinator), Shri.Akhil J Babu(Program Officer UKFCET), Shri.Nandu Bhadrar(Regional Faculty Coordinator-TVM), Shri.Rahul R K(Program Officer,UKFCET).



Following the inaugural function, an award ceremony was held to honour outstanding contributions. Mementoes were presented to dignitaries present at the inauguration, while senior Regional Coordinators received both certificates and mementoes. Individual awards, including "Most Blood Donations," were given to deserving students from colleges across the state. Colleges collecting the highest number of units and conducting the most camps were also recognized, along with the "Best Region" award. Certificates were distributed to the newly inducted Regional Coordinators who attended the camp. Winners of the competitions—including App Development, Idea Pitching, Reel Making, JAM, and Photo Contest—were also awarded. Cash prizes in the App Development and Idea Pitching categories were graciously provided by Terumo Penpol Pvt.Ltd., adding greater encouragement and value to the participants' innovative efforts.



Regional Camps

As a part of World Blood Donor Day and the Rudhirasena Annual Meet, regional blood donation camps were conducted across various regions in association with Terumo Penpol Pvt. Ltd. who played a key role in making the initiative a success.



Terumo Blood and Cell Technologies - India (Terumo Penpol) celebrated Apheresis Day by organizing camps across the country.

Did you know?

- Every few seconds, someone needs platelets, which cannot be stockpiled and have a storage duration of just 5 days.
- A single apheresis donor can provide as many platelets as 6–8 whole blood donors.
- Donors can give plasma every two weeks, making a huge impact for patients undergoing cancer therapies, open-heart surgery, organ transplants, and treatments for blood disorders.

This is possible through apheresis donation - a specialized procedure in which only the required blood component (such as platelets or plasma) is collected, while the remaining components are safely returned to the donor. Every year, Apheresis Day is observed on the third Tuesday of September to raise awareness about this critical medical procedure and to recognize the contributions of donors, patients, and practitioners.

This year, Terumo Blood and Cell Technologies – India (Terumo Penpol) observed the day with equal importance, both by organizing donation camps and by creating awareness about platelet apheresis. The TBCT-India Commercial Team conducted 79 exclusive apheresis donation camps nationwide, resulting in 424 platelet donations. Acting as ambassadors of our organization, associates visited hospitals, engaged with doctors, and interacted with donors. Stakeholders were informed in advance, and platelet donors turned up to support the campaign. Posters and standees highlighting the importance of apheresis were displayed at blood centers. The team also recognized regular platelet donors and spread awareness among the public about the significance of platelet donation.

At our Head Office in Trivandrum, associates actively participated in the campaign. Of the 12 who expressed interest, 7 donated platelets at Regional Cancer Center and One Person at Artemis Hospital, Gurugram.



Akash R. K. (Production)



Manohar Lal (Commercial)



Shibumon A. U. (QA)



Joby Raj R. (R&D)



Jerish Anto (R&D)



Subramanian Gurusamy (R&D)



Sreeroop Hemalatha (GCH)



• Anand Priyadarsan (QA)

As a gesture of appreciation, Terumo Blood and Cell Technologies presented donors with a token of gratitude and a thank-you card carrying a message that promotes apheresis donation.

Special thanks to our Commercial Team for their continued support in promoting voluntary blood donation.

Granddaughter's Fight Inspires 74-YO to Protect Children in India from Inherited Blood Condition

Every year, India sees around 10,000-15,000 babies being born with thalassemia major. And experts blame a lack of awareness and delayed testing.

A child born with thalassemia major is relegated to a lifetime of blood transfusions, which take an emotional, psychological, and economic toll on the family. Hyderabad's Chandrakant Agarwal (74), a PhD scholar, who is currently serving as the president of the Thalassemia and Sickle Cell Society (TSCS) of Hyderabad - a role he has essayed for the last 13 years - experienced this firsthand, as he accompanied his granddaughter Nitya to hospitals across the country for her blood transfusions.

Having a front-row seat to the struggle compelled him to dedicate his life to coaxing India into relentless screening, which, he believes, can help in early detection and possible prevention of thalassemia.

"When Nitya was born, she was healthy. But at eight months, her skin started turning yellow, and we presumed it was jaundice," Agarwal explains. Every treatment failed. One day, one of her doctors, observing the steadily dipping haemoglobin levels, advised a blood transfusion. "Within minutes of the transfusion, Nitya was fine! It was almost like a miracle," Agarwal recalls the family's astonishment.

Today, at 26, Nitya has routine blood transfusions every fortnight and chelation therapy to manage iron overload.

While her story makes a compelling case for how an efficient treatment modality lets a thalassemia major patient live life to its fullest, her grandfather believes there is no good reason any child should have to deal with something that can easily be prevented.



Ref: <https://thebetterindia.com/447093/thalassemia-major-in-india-world-blood-donor-day-at-thalassemia-and-sickle-cell-society-hyd>

Supreme Court seeks expert opinion on blood donation bar on trans persons

The National Blood Transfusion Council's guidelines say that trans people, gay persons and sex workers, among others, are "at risk" for HIV and Hepatitis B or C infections.

The Supreme Court Wednesday asked the Centre to seek expert opinion on the bar on transgender people and gay persons from donating blood, pointing out that it could lead to stigma.

The National Blood Transfusion Council's guidelines say that trans people, gay persons and sex workers, among others, are "at risk" for HIV and Hepatitis B or C infections. The bench of Justices Surya Kant and N K Singh was hearing a plea challenging the guidelines.

"Aren't we creating a kind of segregated group? By these methods, stigma, biases and prejudices are all enhanced," Justice Singh told Additional Solicitor General Aishwarya Bhati, who was appearing for the government.

Justice Singh said: "What is worrying me... are we going to brand all transgenders as risky and thus indirectly stigmatise these communities? Unless you can show with some medical evidence there is some kind of link between transgenders and these diseases. You can't say all transgenders are involved in these kinds of activities, even normal persons engage in such activities..." ASG Bhati said: "If such donations are on a one to one basis, there's no difficulty. For example, relative, family member or a friend. This is blood that will go to the blood bank."

She said: "World over, except for very few countries which have very high mechanisms of testing which are available, they are considered high risk categories. We have to look at the Indian reality. What is the mechanism of testing that is available through the length and breadth of the country?"

Justice Kant said: "I think this is something only experts can advise us. Have a talk with them. What can be the way out that as a community



they are not stigmatised at the same time medical precautions and safety measures can also remain in force without any compromise. Only the stigma part needs to be addressed. What can be the way out?"

The law officer said there is an application for intervention by Thalassemia patients. "They are completely dependent on donated blood. If your lordships look at it from the perspective of the public health requirement of the nation and the reality of the nation, you will appreciate that the purpose is not to identify or stigmatise anyone in any manner, it is to take the best possible scientific and medical evidence that is available today..." She added that the decision was borne out of scientific temper.

Justice Kant said: "Technology also keeps on changing and sometimes very fast developing." The ASG told the court that she would speak to experts and get back.

Ref:-<https://indianexpress.com/article/india/supreme-court-seeks-expert-opinion-on-blood-donation-bar-on-trans-persons-10007230>

Published By :



Public Relations Department
Terumo Penpol Private Limited

Registered Office:

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VAZHUTHACAUD, THYCAUD POST
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