ESH MDS 2026 Conference

Summary for MDS Alliance Members

Leading MDS experts from Europe and North America met in Malahide, Ireland, on 16–18 October 2026 to share the latest science and treatment thinking on myelodysplastic syndromes (MDS), MDS/ Myeloproliferative neoplasms (MPN) overlap disorders (such as Chronic Myelomonocytic Leukaemia (CMML)) and the conditions that come before them. The meeting was the 10th Translational Research Conference of the European School of Haematology (ESH), chaired by Pierre Fenaux (Paris), Katharina Götze (Munich) and Mikkael Sekeres (Miami).

This summary is for information only and is built from the official programme, public reports posted by ESH and speakers during the meeting, and published research on each topic.

Key messages at a glance

1. **MDS is now understood as one end of a spectrum.** It often grows slowly from earlier, milder states (clonal haematopoiesis and CCUS). Experts discussed how to define "progression" in ways that matter to patients.

2. **VEXAS syndrome and MDS.** This recently discovered inflammatory condition overlaps with MDS. Transplant and azacitidine were discussed as ways to change its course.

3. **Genetic testing matters more than ever.** Gene results now shape diagnosis, risk scores (IPSS-M) and treatment. Artificial intelligence (AI) may refine this further.

4. **More choice for anaemia in lower-risk MDS.** Luspatercept and imetelstat have joined ESAs, but the best order to use them is still unknown.

5. **Higher-risk MDS still needs better drugs.** Several combination trials have not improved survival. Azacitidine or decitabine remain the backbone, and transplant is the only potential cure.

6. **The patient voice is moving to the centre.** Quality of life and patient-reported outcomes had a dedicated talk and expert session. Speakers also called on regulators to adopt response criteria that reflect what matters to patients.

SESSION I:
From clonal haematopoiesis to MDS (Session I)

The meeting opened with one question: how do early, harmless-looking changes in blood stem cells turn into MDS? As people age, some blood stem cells pick up gene changes and grow into a larger group (a "clone"). Without low blood counts this is called clonal haematopoiesis (CH). With unexplained low blood counts it is called CCUS. Only some people with CH or CCUS ever develop MDS.

- **Klaus Metzeler (Leipzig)** described how clones gain further mutations over time and become more harmful.
- **Nancy Gillis (Tampa) and Amy DeZern (Baltimore)** described the continuum from CCUS to MDS and how progression should be defined in a way that matters for patients.
- **Research highlight:** Christina Maria Perraki from Stockholm showed that ASXL1 mutations reshape the proteins of early blood cells in myeloid cancers.

Why it matters for patients: *better ways to spot which people with CCUS are likely to progress could allow earlier monitoring and, in future, treatment trials before MDS develops.*

SESSION II and IV:
VEXAS syndrome

VEXAS was a major theme, with a full session and a further clinical talk. It was first described in 2020 and is caused by acquired changes in the **UBA1** gene in blood stem cells. It mainly affects older men. It causes fevers, inflamed cartilage, skin rashes and lung inflammation, together with low blood counts, and many patients also have MDS (Holden et al., 2025).

Discussions included:

- **Olivier Kosmider (Paris)** reviewed the latest genetics and biology of VEXAS.
- **Emma Groarke (NIH, Bethesda)** presented the US National Institutes of Health experience of stem cell transplant in VEXAS, including who benefits and the best timing.

- **Thibault Comont (Toulouse)** presented results from the French VEXAS network (FRENVEX) on using **azacitidine**, with practical advice on monitoring response and possibly changing the course of the disease.
- **David Beck (New York)**, who led the team that discovered VEXAS, described its many clinical faces.
- **Research highlight:** Marek Jedlicka from Prague showed that stem cells in VEXAS and in MDS have distinct gene-activity patterns, which may help tell the two apart.

Why it matters for patients: *There is still no standard treatment. Steroids control inflammation but often lead to relapse; JAK inhibitors, interleukin blockers and azacitidine help some patients; and transplant may offer a cure for some, especially those with MDS. Anyone with MDS and unexplained inflammatory symptoms may wish to ask about UBA1 testing.*

SESSION III: Classification, risk scores and artificial intelligence

Since 2022 doctors have used two slightly different MDS classifications: the WHO system and the International Consensus Classification (ICC).

- **Robert Hasserjian (Boston)** discussed how the two fit together. For patients, the practical point is that a diagnosis may be worded differently depending on which system a lab uses.
- **Aristoteles Giagounidis (Düsseldorf)** reviewed the **IPSS-M**, the risk score that adds gene mutation results to blood counts, blast percentage and chromosome results. Published evidence shows its strengths and limits:
    - In nearly 2,900 European patients, it predicted survival better than the older IPSS-R and changed the risk group for 46% of them (Sauta et al., JCO 2023).
    - It helps choose who should go for transplant, but it does not predict who will respond to azacitidine or decitabine (same study).
    - It needs gene testing, which is costly and not available everywhere (commentary).
- **Matteo Della Porta (Milan)** spoke on how AI could combine many data types to give more personal diagnosis and risk prediction.

Research highlight: Manja Wobus from Dresden showed in CMML that JAK1/2 inhibitors can reverse immune-suppressing changes in bone marrow cells.

Why it matters for patients: *ask your team whether your risk group is based on the IPSS-R or IPSS-M, and whether gene (NGS) testing has been done.*

SESSION IV:
Special genetic groups and CMML

This session covered groups of patients whose MDS is driven by particular genetic features. These are general summaries of each topic.

- **Inherited (germline) risk - Marie Sebert (Paris).** A small share of MDS comes from gene changes a person is born with. This matters most for younger patients and for choosing a family member as a stem cell donor, as the donor may carry the same change.
- **TP53 - Francesc Solé (Barcelona).** MDS with TP53 mutations tends to be more aggressive and responds less well to current treatment. It remains one of the biggest unmet needs.
- **Splicing factor mutations - Michaela Fontenay (Paris).** Genes such as SF3B1 are among the most common in MDS. SF3B1-mutated MDS often responds well to luspatercept.
- **CMML and MDS/MPN - Raphaël Itzykson (Paris).** These overlap disorders are often left out of clinical trials, so patients have fewer evidence-based options.

Research highlight: Nuria A. Pizarroso from Paris tracked single cells over time in IDH1-mutated disease. IDH inhibitors changed the cells but did not remove the stem-like mutant clone, which may explain later relapse.

Why it matters for patients: *if you have a family history of blood disorders, or are young at diagnosis, ask whether inherited testing is relevant. CMML patients may want to ask specifically about trials that include CMML.*

SESSION V and Meet the Expert:
Looking ahead and the patient voice

Patient experience had a stronger place on this programme than at many scientific meetings.

- **Fabio Efficace (GIMEMA, Rome)**, who leads quality-of-life research for the Italian GIMEMA group, spoke on asking patients directly about the benefits of treatment. He also led a Meet the Expert session on patient-reported outcomes (PROs) (GIMEMA).
- **Nancy Gillis (Tampa)** spoke on the epidemiology of MDS: how common it is and who it affects.

- **Valeria Santini (Florence)** discussed predicting who will respond to treatment in lower- and higher-risk MDS.
- **Mikkael Sekeres (Miami) and Amer Zeidan (New Haven)** each gave talks addressed to regulators, setting out what response criteria for new MDS drugs should be. Clear, patient-relevant response criteria affect which drugs get approved.

Why it matters for patients: *patient organisations can support this direction by encouraging members to take part in PRO studies, and by pressing for quality of life to count in drug approvals.*

SESSION VI: Treating lower-risk MDS

For lower-risk MDS, the main goal is to treat anaemia, cut the need for transfusions and protect quality of life.

- **Eva Hellström-Lindberg (Stockholm)** set out the case for ESAs and for luspatercept as first treatment, and **Sophie Park (Grenoble)** covered what to do next.
- The main anaemia treatments discussed, with background from published evidence:

Treatment	How it works	Where it is used
ESAs (epoetin, darbepoetin)	Hormone that boosts red cell production	First line, especially with low natural EPO levels
Luspatercept	Helps red cells mature by blocking TGF-beta signals	First line in transfusion-needing patients, better than epoetin in the COMMANDS trial (MDS Foundation); also after ESAs
Imetelstat	Blocks telomerase, an enzyme overactive in MDS cells	After ESAs fail; monthly infusion; temporary drops in blood counts are common (Targeted Oncology)
Lenalidomide	Targets cells with a del(5q) chromosome change	MDS with del(5q)
Low-dose azacitidine or decitabine	Reverses abnormal DNA "switching off"	Selected patients, including shorter courses under study

The key open question is the best order. No trial has compared luspatercept and imetelstat head to head, and experts still debate sequencing (Targeted Oncology).

Research highlight: Coen Veenstra from Amsterdam used single-cell profiling to predict who responds to lenalidomide.

SESSION VII and symposium: Treating higher-risk MDS

Higher-risk MDS carries a greater chance of turning into AML. For 20 years the standard treatment has been azacitidine or decitabine (hypomethylating agents, HMAs), with stem cell transplant for those fit enough.

- **Maria Figueroa (Miami)** explained how faulty "epigenetic" control of genes drives MDS, which is what HMAs target.
- **Lionel Adès (Paris)** made the case for first-line options other than HMAs.
- **Guillermo Garcia-Manero (Houston)** argued that combination therapies are "not quite dead yet".
- A separate symposium covered treatment before transplant.

Background on combinations: the large VERONA trial (509 patients) added venetoclax to azacitidine. It produced more responses and more transfusion independence, but no longer survival: median 22.2 vs 21.7 months (Blood Cancers Today). It joins other combinations that looked promising early but failed in phase 3 (AOB editorial). HMAs therefore remain the backbone of therapy.

Research highlight - a possible new drug: Matthias Heiss (Munich) presented **carbacitabine (CAB)**, a more stable relative of decitabine. In mouse models of AML, it was more effective and up to 100 times less toxic to blood cells than decitabine (EU CORDIS). It has **not yet been tested in people**; the team is preparing first-in-human studies in high-risk AML and MDS.

SESSION VIII: Transplant and cell therapy

Allogeneic stem cell transplant (cells from a donor) is still the only treatment that can cure MDS. In VERONA, patients who went on to transplant lived longer whichever treatment they had first (Dana-Farber).

- **Nicolaus Kröger (Hamburg)** gave two talks: an overview of current transplant practice, and which lower-risk patients should be transplanted and when. Timing is a balance between transplant risks and the risk of the disease progressing.
- **Ana Alfonso Piérola (Navarra)** asked whether CAR-T cell therapy, already used in lymphoma and myeloma, has a role in MDS and AML. This remains experimental, partly because suitable targets on MDS cells are also found on healthy blood cells.
- **Research highlight:** a Salamanca team (Alejandro Avendaño Pita) combined genetic and blood-vessel lining markers to predict outcomes after transplant in MDS/MPN.

Why it matters for patients: *a transplant discussion should happen early, even if transplant is not needed yet, so that donor searches and fitness assessment are not delayed.*

SESSION IX: Academic clinical trials

The final session reviewed trials run by academic study groups, which test questions drug companies often do not, such as treatment order, dose or stopping treatment.

Region	Groups covered	Presented by
Germany, Europe-wide, Italy	German groups, EMSCO, Italian groups	Klaus Metzeler (Leipzig), Valeria Santini (Florence)
France, Spain	French and Spanish groups	Pierre Fenaux (Paris)
USA and others	US and other groups	Guillermo Garcia-Manero (Houston), Mikkael Sekeres (Miami)

Research highlight: Margareta Radic Antolic from Zagreb argued that gene changes of uncertain significance (VUS) should still be detected and reported, as they may flag people at risk of developing MDS.

Patients can search for open trials at ClinicalTrials.gov and the EU Clinical Trials Register, or ask their haematologist which academic trials their centre takes part in.

Questions patients may want to ask their team

- Is my MDS lower-risk or higher-risk, and which score (IPSS-R or IPSS-M) was used?
- Have I had gene (NGS) testing, and do any results change my treatment?
- If I have inflammatory symptoms, should I be tested for VEXAS (UBA1)?
- If my first anaemia treatment stops working, what comes next?
- Should we talk about transplant now, even if it is not needed yet?
- Is there a clinical trial I could join, including quality-of-life studies?